SEPTEMBER 1, 1954

MODERN MEDICINE

The Journal of Diagnosis and Treatment

Dr. W. A. Sodeman

Table of contents page 2

The long and short of Bentyl's relief of nervous gut

Clinicians[1,2] prove Bentyl is long on effective relief... short on unwanted side effects including blurred vision and dry mouth.

1. McHardy and Browne: Sou. Med. J. 45:1139, 1952. 2. Sorber and Shay: Fed. Proc. 12:90, 1953.

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References: 1. Postgrad. Med. 14:429, 1953. 2. J.A.M.A. 151:141, 1953.

MODERN CONTENTS

Volume 22
Number 17

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MODERN MEDICINE

The Journal of Medical Progress, of Minneapolis, Minn., is published twice monthly on the first and fifteenth of each month, at 55 East 10th Street, St. Paul 2, Minn. Subscription rate: $10.00 a year, 50c a copy.

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MEDICINE
for September 1, 1954

Walter C. Alvarez
Editor-in-Chief

•

THE MAN ON THE COVER is Dr. William A. Sodeman, Professor and Chairman of the Department of Medicine at the University of Missouri School of Medicine, Columbia. Dr. Sodeman is a diplomate of the American Board of Preventive Medicine and Public Health, fellow of the American Public Health Association, and a member of the Society for Experimental Biology and Medicine, the American Society for Clinical Investigation, National Malaria Society, and numerous other organizations. He has written over 100 articles on cardiovascular and tropical diseases. Among his recent contributions is the report on page 75, "Refractory Heart Failure."

CONTINUED

Contents for September 1 1954

Business Manager: M. E. Herz. Address all correspondence to 84 South 10th Street, Minneapolis 3, Minn. Telephone: Bridgeport 1291. ADVERTISING REPRESENTATIVES: New York 17: Lee Klemmer, Bernard A. Smiler, John Winter, 50 East 42nd Street, Suite 401. Telephone: Murray Hill 2-8717. CHICAGO 6: Jay H. Herz, Hugh T. Gibson, 20 North Wacker Drive, Suite 1921. Telephone: Central 6-4619. SAN FRANCISCO 4: Duncan A. Scott & Co., Mills Bldg. Telephone: Garfield 1-7950. LOS ANGELES 5: Duncan A. Scott & Co., 2978 Wilshire Blvd. Telephone: Dunkirk 8-4151.

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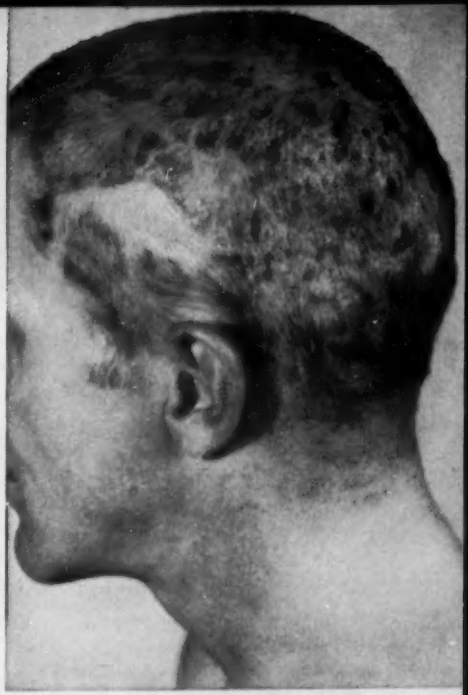

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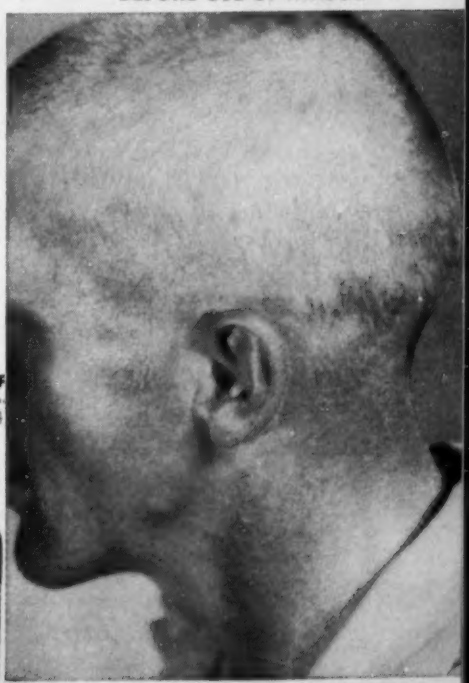

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MODERN MEDICINE

Therapeutic Index

for September 1, 1954

THIS INDEX, prepared for your convenience, lists all advertised products in this issue. Specific information on each product will be found on the pages listed.

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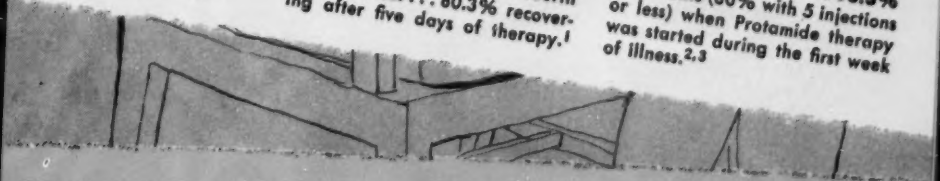

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REFERENCES:
1. Smith, R. T.: New York Med. 8:16, 1932. 2. Combes, F. C. & Canizares, O.: New York St. J. Med. 32:706, 1932. 3. Marsh, W. C.: U.S. Armed Forces M. J. 1:1048, 1950.

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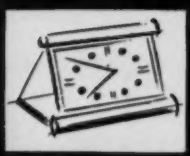

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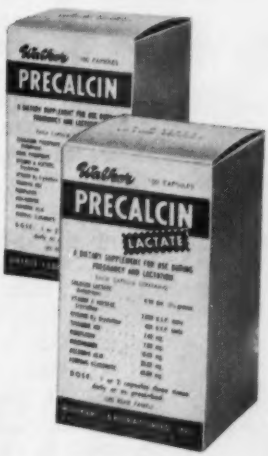

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11

MODERN MEDICINE

THE JOURNAL OF DIAGNOSIS AND TREATMENT

LETTER FROM THE EDITORS

Dear Reader:

If you are like most of us, you do not get an opportunity to do all the reading you would like to do.

One of our friends always checks the table of contents of his journals as they arrive, marking the articles of special interest to him. He finds time to read some of the papers, but seldom does he get all the way through his list.

The limiting factor is time. Nothing can be done about giving you more time. The only hope is that a way may be found to save some of the time that you have. That is where we come in.

This issue of *Modern Medicine* contains reports on more than 75 current medical articles. The reading has been done for you. The facts you want to know have been carefully boiled down into a compact report which can be read easily in less than two minutes. The entire issue can be read from cover to cover in a little more than two hours. For your convenience, should you desire further information on any of the subjects reviewed, the journal reference is given on the first page of each report.

Spare moments seldom come in chunks as large as two hours, so keep your copy of *Modern Medicine* handy. A few minutes a day will enable you to read each issue completely before the next one arrives. You will have obtained the gist of 75 articles and will have a good synoptic view of the current medical literature. If you take advantage of the occasional spare moments in this way, you will keep on top of what is happening in medicine without encroaching upon the time you now set aside for reading those articles of special interest to you.

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Correspondence

Communications from the readers of MODERN MEDICINE *are always welcome. Address communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Vaccine for Psoriasis

TO THE EDITORS: In the March 1, 1954 issue of *Modern Medicine* (p. 28), a question was asked concerning the treatment of chronic annular psoriasis.

Since psoriasis is etiologically one of the manifestations of the permanent endoparasitism of the *Bacillus endoparasiticus* and is pathogenetically a bacterial-allergic inflammatory process, the most satisfactory therapeutic result can be reached by desensitization by means of the specific vaccine of the *B. endoparasiticus*, without any local treatment.

TIBOR BENEDEK, M.D.

Chicago

Omitted Reference

TO THE EDITORS: A reference was omitted in my comments on "Therapeutic Abortion" *(Modern Medicine,* July 1, 1954, p. 123) which I feel should have been included. The reference was to my contribution to *Therapeutic Abortion,* Harold Rosen, Ed. (Julian Press, N.Y., p. 213 ff., 1954) under the title "The Prenatal Psychotic Patient."

W. G. ELIASBERG, M.D.

New York City

Interest in Posterity

TO THE EDITORS: A condensation of an important paper by Prof. H. J. Muller concerning damage to posterity caused by irradiation of the gonads appeared in the June 1, 1954 issue of *Modern Medicine* (p. 103). In 1946, Prof. Muller received the Nobel Prize in Physiology and Medicine for his discovery of the production of mutations by x-rays. His remarks relative to the long-term effects of ionizing radiations on the genetic material in man merit the close attention of all physicians.

Modern Medicine also reported the opening discussion of Prof. Muller's paper, which was made by Dr. Ira I. Kaplan. Dr. Kaplan stated that the genetic dangers derived from the results of animal experiments cannot be properly applied to the problem in human beings and that no one has been able to demonstrate genetic abnormalities in the progeny of therapeutically irradiated women comparable to the genetic injuries noted in animals after irradiation.

The only conclusion that I can come to is that Dr. Kaplan is unfamiliar with the basic principles of

(Continued on page 20)

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genetics and that he has completely missed the point of Prof. Muller's paper. Since *Modern Medicine* did not report the remarks of other authors or Prof. Muller's closing statement, it would seem appropriate to quote a remark of the second contributor, Dr. Robert Rugh, a radiobiologist:

> The point which a geneticist emphasizes is that once a mutation is produced, and no more efficient way to produce it is known than by ionizing radiations, it is permanent as long as it is carried from one generation to another generation through the gametes and ultimately if that gene carries a lethal mutation it will express itself. It may be 100 generations hence. Now if the profession is not concerned about what happens 100 or 200 generations hence that is an ethical matter which I suppose should be discussed. I personally am interested in future generations.

So is the writer of this letter.

LYTT I. GARDNER, M.D.
Syracuse, N. Y.

The Needle-Shy Patient

TO THE EDITORS: I have always carried a tube of ethyl chloride to freeze the area for an intramuscular injection. On one occasion, however, while visiting a woman with cardiac congestion, I found that my tube of ethyl chloride was empty. I had already sterilized the skin and made the usual "X" to mark the spot for insertion of the needle. I realized that I had to meet the challenge of the moment and to meet it fast. It was then that I got what I consider nothing less than a Providence-inspired idea.

I turned to the husband and asked for a cube of ice from the refrigerator. I grasped the cube with an artery forceps and held it

over the indelible "X" for exactly two minutes. I then departed from my usual custom of introducing the long needle with a quick sharp thrust and literally "dug" the needle in, before and after reaching the sensory nerve layer. The patient did not wince or show the slightest evidence of discomfort from this procedure.

I have since used this method of freezing the muscular tissues and have never been disappointed. It is best to start with 2 or 3 cubes, as some of the trays produce rather small ones. Also, an artery forceps is not necessary; a thin synthetic sponge serves as well.

WILLIAM H. THALER, M.D.
Long Beach, Calif.

Right to Secrecy

TO THE EDITORS: In the Forensic Medicine department of the April 1, 1954 issue of *Modern Medicine*, a decision was reported by the Nebraska Supreme Court that calls for a few remarks from a syphilologist's viewpoint.

A doctor had informed a hotel keeper of a tentatively diagnosed syphilitic infection of a transient guest, and the court decided that the statute regarding professional secrecy was not to be applied because the doctor had not disclosed a secret that was detrimental to the patient.

I believe that professional secrecy is a patient's right whether or not the secret is deemed detriment-

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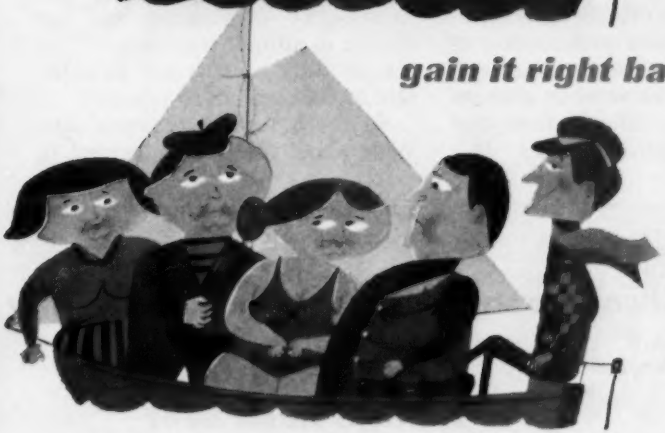

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*Aaron, H.: *Weight Control*, Consumer Reports 17:100 (Feb.) 1962.

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al. Only paramount interest of others can take the decision as to revelation away from the patient, and only then the question of possible damage to the patient becomes a point in question. A decision in an individual case can, therefore, only be arrived at by balancing the two conflicting interests. In doing so, the court stated that a patient cannot expect a disease that is contagious to be kept a secret from those to whom it can be transmitted.

I do not know whether this formulation is an exact presentation of the existing laws, but we must certainly say that in venereal diseases the situation is different from that in other contagious diseases. If a physician is called to a patient with diphtheria or plague, it is generally accepted that such a diagnosis necessitates certain steps that cannot remain secret. A patient who sees a physician for any other disease tacitly expects secrecy. If the disease is syphilis he emphatically expects it, because the disclosure is, indeed, detrimental. No reasoning can do away with the peculiar quality of venereal diseases. Against the possible argument that venereal disease is not a disgrace anymore, it must be emphasized that the change in attitude was intended for the patient's benefit, not as a device to deprive him of privacy.

So much for the patient's side. What about the public interest? In

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some contagious diseases the danger to others is so great that disclosure and, if necessary, even sterner measures, such as confinement or destruction of property, are considered a matter of routine. In syphilis, the hazard of nonsexual transmission is very slight under the living conditions of the United States and, furthermore, depends completely on the circumstances of the case.

In the present problem, the stage of the infection was not stated, if the tentative diagnosis was confirmed at all. The patient considered himself contagious and, for the sake of argument, we may assume that he was. He had moved to the hotel to avoid infecting others. If these others were members of his immediate family, it must be granted that they were in danger. In a hotel, the hazard of exposure of other guests and employees is nil if the patient is careful.

This epidemiologic discussion would be academic if the medical facts had received due consideration. One injection of penicillin would, within a few hours, render such a patient noncontagious for all practical purposes. Consequently, this case could easily have been handled with complete maintenance of secrecy and still without infringement on the safety of others. But even if a decision should be more difficult, the physician must do his utmost to honor his patient's confidence. It is my experience that of those patients that consult a physician at all, even the less cooperative ones can almost always be safely steered through problems of transmission. It may be necessary to throw one's whole personality

(Continued on page 28)

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---

1. Klohs, M. W.; Draper, M. D., and Keller, F.: J. Am. Chem. Soc. *76*:2843 (May 20) 1954.
2. Cronheim, G.; Brown, W.; Cawthorn, J.; Toekes, M. I., and Ungari, J.: Proc. Soc. Exper. Biol. & Med. *86*:110 (May) 1954.

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into the battle in order to persuade the patient to do the right thing or allow it to be done, but this is part of the physician's job.

If the patient had refused treatment, particularly if he could not have been relied upon to refrain from hazardous contacts, the situation would have warranted direct steps. Even so, not the hotel keeper but the local health department should have been informed. Their agents are sworn to secrecy, are backed by authority, and are guided by experience.

The whole problem goes beyond the individual patient's right as such. In the fight against venereal diseases, it is indispensable that a patient should feel free to see a doctor without fear of reproach or disclosure. This is so important in the long run that a remote hazard, even if such had been present, could not counteract it.

ROBERT BRANDT, M.D.
Cincinnati

Strangulated Hemorrhoids

TO THE EDITORS: The following office procedure should facilitate replacement of a prolapsed strangulated mass until surgery can be undertaken:

Inject at 4 points of the constricted mass 0.5 cc. of 0.5% procaine solution containing 100 to 150 turbidity-reducing units of hyaluronidase for each 2 cc. Follow with light massage of tissues to expedite distribution of the solution.

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Los Angeles

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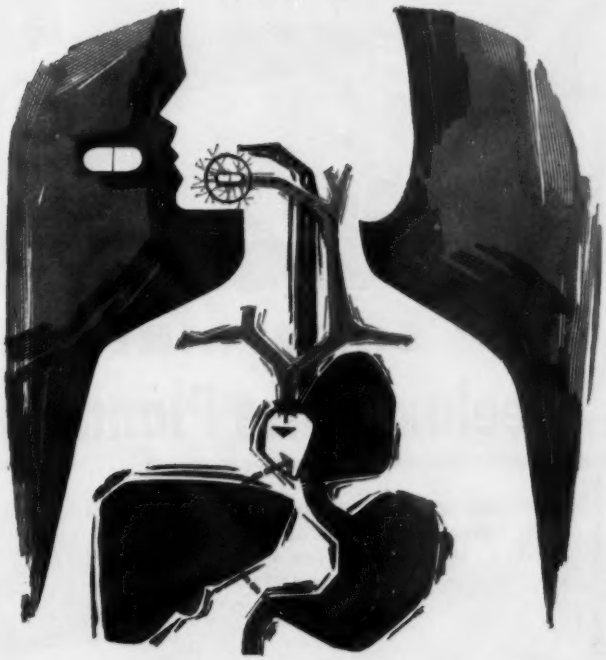

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1. ESCAMILLA, R. F., AND GORDON, G. S.: J. CLIN. ENDOCRINOL. 10:248 (FEB.) 1950.

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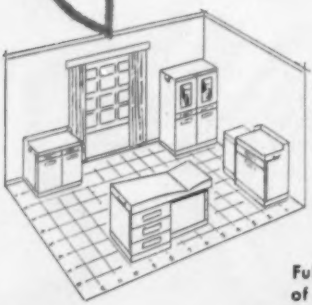

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Questions & Answers

All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department, MODERN MEDICINE, *84 South Tenth Street, Minneapolis 3, Minnesota.*

QUESTION: What is the therapy for burning, aching feet in elderly people? The symptoms persist even after retiring, regardless of position.

M.D., Maine

ANSWER: *By Consultant in Orthopedics.* The symptoms are caused by circulatory deficiency with secondary nutritional changes in tissues. Contrast baths using alternate hot and cold immersion for three-minute periods three times in each solution are helpful. The vasodilator drugs should also be tried.

QUESTION: A 16-year-old boy has loud creaking, cracking, and popping joints, particularly in the ankle. He has experienced occasional slight pain and in the past month he has had a locking of the knee several times.

M.D., South Carolina

ANSWER: *By Consultant in Orthopedics.* Snapping and popping of joints are commonly caused by slipping of tendons over joint structures. Joints also snap when forcibly separated. No satisfactory treatment has been described.

When multiple joints are involved, roentgenograms are useful in ruling out a degenerative disturbance such as osteochondromatosis.

QUESTION: What is the clinical behavior of thyroidectomized patients who are diabetic, with reference to insulin-sensitive and insulin-resistant mechanisms?

M.D., New York

ANSWER: *By Consultant in Diabetes.* With thyrotoxicosis, diabetes is aggravated, blood sugar readily elevated, glycosuria aggravated, absorption of sugar from intestines rapid, glucogenesis stimulated, need for insulin increased, and duration of insulin action reduced.

When thyrotoxicosis is controlled, these processes are completely reversed.

QUESTION: What are the etiology, signs and symptoms, and present accepted treatment for sphenopalatine neuralgia?

M.D., Arkansas

ANSWER: *By Consultant in Neurology.* This condition is characterized by paroxysmal pain localized to the lower half of the face and never extending above the level of the ear. Distribution of pain may include the root of the nose, the orbital region, the upper jaw, the zygoma, the mastoid region, or the neck. At times the pain extends

(Continued on page 38)

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to the shoulder, arms, or fingers. The most common site, however, is in the orbital region in the nose. Congestion of the nasal mucous membrane and some nasal obstruction may be associated.

The cause of this condition is unknown, and most explanations have been unsatisfactory. Similar symptoms, resembling sphenopalatine neuralgia, have been produced by lesions in the cervical portion of the spinal cord. Sluder obtained relief of this pain by an injection of 20% solution of cocaine into the sphenopalatine ganglion or by cocainization of the tip of the middle turbinate over the ganglion. Many investigators question the authenticity of the syndrome.

QUESTION: A 50-year-old woman has had severe constipation for the past eighteen years. Several inches of narrowed sigmoid appear responsible. The standard hygienic anticonstipation measures have afforded no relief. Evacuation seldom is possible unless castor oil is followed by multiple enemas. Any suggestions?

M.D., Indiana

ANSWER: *By Consultant in Internal Medicine.* Although unusual at age given, this condition is probably a type of Hirschsprung's disease, which resection of constricted segment of bowel should relieve. After so many years of dysfunction, some of the colon above the involved region is probably dilated, atonic, and tortuous and may require removal also.

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Diabetic Patients in Industry

HAROLD BRANDALEONE, M.D., AND GERALD J. FRIEDMAN, M.D.
New York City

*Cooperation between the industrial and the private physician is essential for detection, management, education, and job placement of the diabetic patient in industry.**

THE diabetic employee can be taught that the disease, properly cared for, does not inhibit habitual work in industry. Close cooperation between private and company physician is advisable.

Workers who become diabetic seldom need to change positions, although occasionally a shift may be desirable because of altered physical condition. Except when public or individual safety is concerned or the danger of insulin reaction exists, the diabetic person is capable of doing any job a nondiabetic can do.

Data on the incidence of diabetes, relative time lost from work due to the illness, and proneness of diabetic patients to accidents were obtained in [1] a survey of such patients employed in various unrelated industries and [2] a study of a group of diabetic patients under physician supervision at the Third Avenue Transit Corporation, New York City.

FIRST STUDY

Questionnaires were sent to medical directors of 348 companies in the United States and territories and Canada. An analysis of the data from 63 companies gives an indication of current practices concerning diabetic patients in industry. Practically all types of industry are represented in the study.

- Incidence of diabetic employees was 0.5% in 39 of the 63 companies.
- Known diabetic persons were employed in 43 companies; 33 of these restricted the patients to nonhazardous work. In 38 of the 63 companies, persons who became diabetic were allowed to continue in the same position; 24 organizations restricted the type of work and 1 had no set policy.
- The amount of time lost from work for those with and without diabetes was reported to be the same by 3 companies; 60 had no statistics relative to time lost.
- Although statements probably represented opinions rather than accurate evaluations, 2 of the companies reported that persons with diabetes worked better than nondiabetic individuals; 44, no difference; and 17, undetermined.
- In 4 companies, diabetic persons were treated by the company doctor only; in 36, by private physicians; and in 22, by both company and private doctors. A report was not available from 1 company.

*Diabetes in industry. Diabetes 2:448-453, 1953.

SECOND STUDY

An analysis was made of information of diabetic employees of the Third Avenue Transit Corporation during 1947-52.

- Of 3,508 employees, 40 had diabetes, an incidence of 1.1%. The ages of the diabetic patients varied from 32 to 68 years, the average being about 54 years. The group consisted of 17 bus operators, 10 mechanics, 4 office workers, and 9 employees working in miscellaneous jobs.
- Of the 40 patients, 27 have continued working, 5 work as bus operators when not taking insulin, 5 were retired on reaching the prescribed age, 1 stopped working because of pulmonary tuberculosis, and 2 resigned for reasons unrelated to diabetes.
- Time lost from work by 33 of the 40 diabetic employees was approximately the same as for nondiabetic persons.
- Capacity and quality of work of diabetic employees were equal to that of nondiabetic persons.
- The medical department administered insulin regularly to 11 diabetic employees, irregularly to 6, and not at all to 16.
- Diabetic control, evaluated according to the degree of glycosuria and weight loss and existence of acetonuria, was considered good in 7 patients, fair in 6, and poor in 3. The status of 24 employees was undetermined.

• "Intestinal flora can be changed either by administration of drugs or by modification of the diet."[1,2] Antibiotics, in particular, have been reported as markedly detrimental to a healthy intestinal flora and repeatedly as causative agents in diarrhea, acute ulcerative colitis, and inflammatory reactions involving the intestinal tract from the oral mucosa to the rectum.[3,4,5,6]

• "We found buttermilk preferable in infantile diarrhea, as compared with other milks."[7] Many researchers[8,9,10,11] concur in the opinion that acid milks such as buttermilk are an excellent source of healthy intestinal flora which promote normal digestion and elimination, especially in the presence of certain gastro-intestinal disturbances.

buttermilk therapy news

[1] J. A. M. A. 152:1676 [Aug. 22] 1953.
[2] J. A. M. A. 151:964 [Mar. 14] 1953.
[3] J. A. M. A. 152:585 [June 13] 1953.
[4] A. M. A. Arch. Int. Med. 90:677 [Nov.] 1952.
[5] J. A. M. A. 149:762 [June 21] 1952.
[6] A. M. A. Arch. Int. Med. 90:763 [Dec.] 1952.
[7] A. M. A. Am. J. Dis. Children 85:675 [June] 1953.
[8] A. M. A. Am. J. Dis. Children 84:757 [Dec.] 1952.
[9] Ann. Allergy 11:555 [Sept.-Oct.] 1953.
[10] New York State J. Med. 54:231 [Jan.] 1953.
[11] Med. Times 80:666 [Nov.] 1952.

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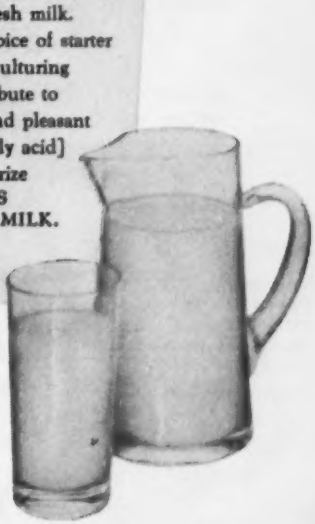

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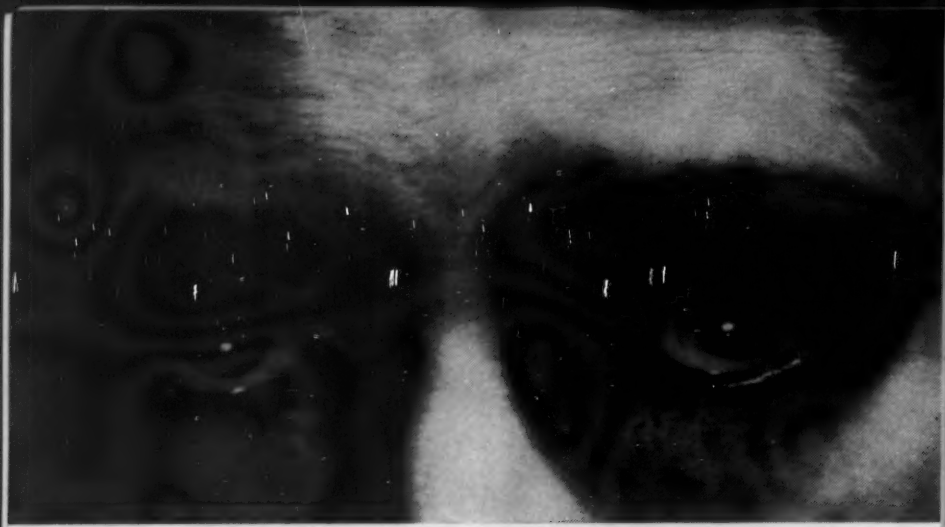

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†Fromer, J. L., and Cormia, F. E.: J. Invest. Dermat. 18: 1, 1952.

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Forensic Medicine

ARTHUR L. H. STREET, LL.B.

Prepared especially for Modern Medicine

PROBLEM: A woman willed one year's salary to each of the persons who had been in her employment for more than a year immediately preceding her death. Her family doctor had been receiving $400 monthly from her. Since the doctor maintained an office and treated other patients, was he entitled to $4,800 under the will as an employee?

COURT'S ANSWER: No.

The New York County Surrogate's Court reasoned that the doctor was an independent contractor and not an employee as the term is generally used (53 N. Y. Supp. 2d 106).

PROBLEM: Under Ohio law, could a physician hold the reputed father of an illegitimate child liable for medical services rendered to the child?

COURT'S ANSWER: No.

The Ohio Court of Appeals, Warren County, followed a ruling by the Supreme Court of the state to the effect that, except as required by statute, a reputed father of an illegitimate child is not liable to one who furnishes necessaries to the child. The decision was rendered in 1936 and noted that a previous Ohio statute imposing such liability had been repealed (4 N.E. 2d 595).

PROBLEM: A New York surgeon violated a statute against advertising for patronage. A Grievance Committee recommended that the doctor's license be suspended for three months. The State Board of Regents asked the board's Disciplinary Committee for a supplemental report. That report explained that only three months' suspension was recommended because this was the first case in a campaign to enforce the law against advertising and it was desired to warn violators. The report also mentioned that the doctor had advertised again after the acts on which the proceeding was based had been committed. Did the board exceed its power in suspending the doctor's license for one year?

COURT'S ANSWER: No.

The Appellate Division of the New York Supreme Court, Third Department, decided:

The fact that the Disciplinary Committee referred to a subsequent offense by the doctor did not invalidate the proceeding. Just as a judge can secure extraneous information to assist in determining the sentence for a criminal, so the Board of Regents can investigate the background of a doctor.

The court criticized the inclusion in the report of references to warning other violators, because it was not pertinent to the charges under consideration (128 N.Y. Supp. 2d 881).

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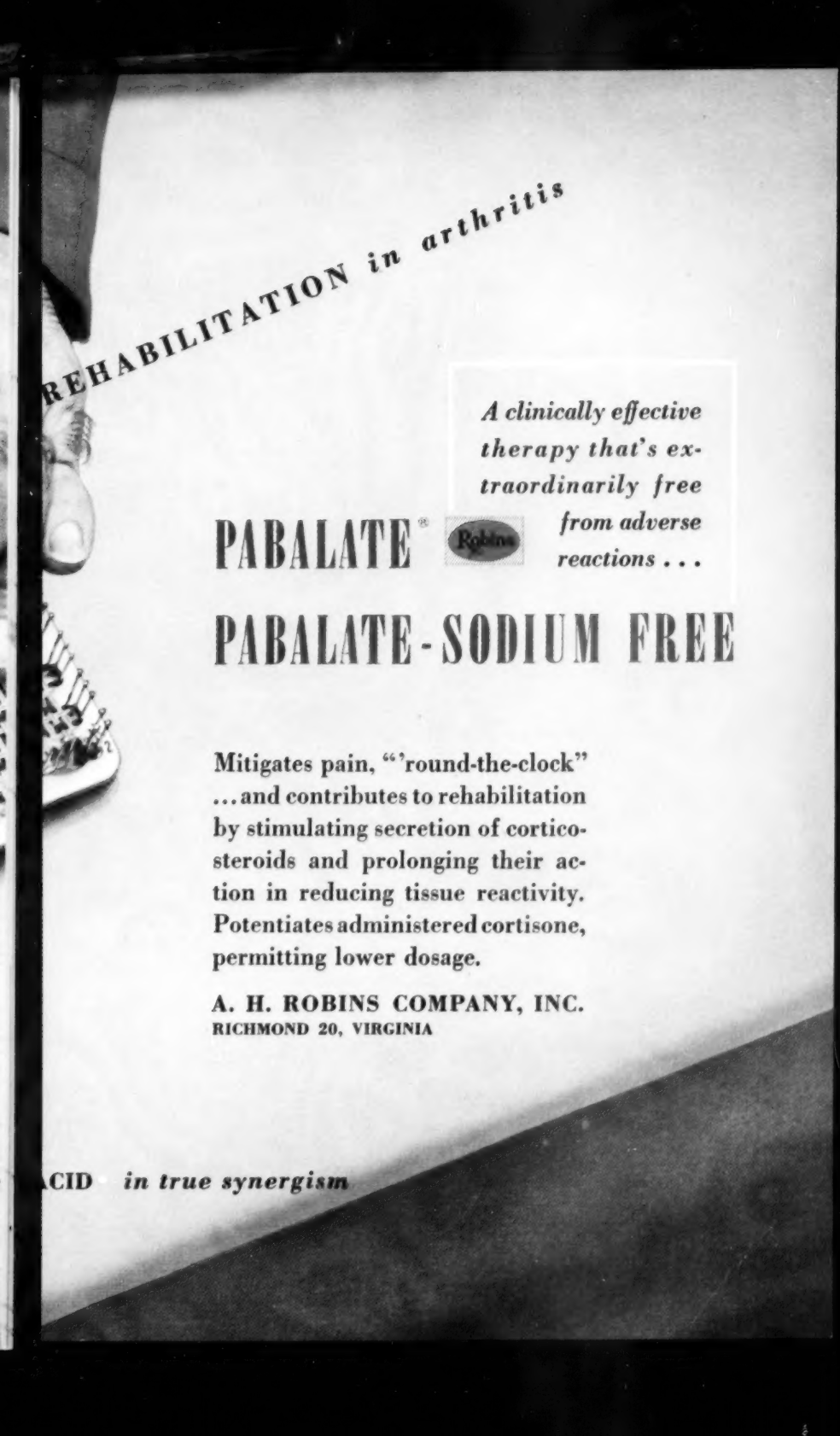
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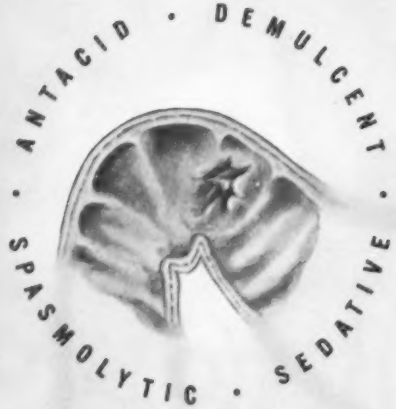

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PROBLEM: When an employee becomes ill at work without fault of the employer, is the latter legally bound to secure medical care required by the circumstances?

COURT'S ANSWER: Yes.

The Appellate Division of the New Jersey Superior Court nevertheless decided that when a nurse in a first-aid department reasonably supposed that a worker merely had a severe attack of indigestion and the employee refused to see the plant doctor, the employer was not liable for the man's death several days later after a belated diagnosis of coronary occlusion. The nurse had attempted to secure attendance of the employee's doctor (86 Atl. 2d 289).

PROBLEM: In a malpractice suit regarding infection that developed after treatment of a compound wrist fracture, could the jury consider testimony tending to show that defendant removed pieces of bone from the wound with his bare fingers, when medical testimony showed that it was not customary nor proper for a doctor to insert unsterilized fingers into a wound, and the defendant doctor admitted that infection could have spread had his fingers contacted an open blood vessel?

COURT'S ANSWER: Yes.

But the Alabama Supreme Court decided that the fact that infection was noted shortly after the treatment was given did not infer that it resulted from the doctor's negligence rather than from the fracture (122 So. 322).

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DOSE: 2 tablespoonfuls b.i.d. until stools are soft (may take several days), then 1 or 2 Tbs. at bedtime.

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1. Cass, L. J. and Frederik, W. S.: Malt Soup Extract as a Bowel Content Modifier in Geriatric Constipation. Journal-Lancet, 73:414 (Oct.) 1953.

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BAUER & BLACK FASHIONED STOCKING knitted with rear-fashioning seam so that pressure is adjusted to leg contours, avoiding undesirable constriction. Pressure decreases gradually from ankle up, thus gently speeding circulation.

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"... the ingestion of choline theophyllinate [choledyl] induced markedly significant increases in the theophylline blood levels when compared to those obtained after aminophylline. The increase was 60 to 75 per cent higher for the first two hours. . . ."[1]

(The therapeutic effect of aminophylline is due solely to its theophylline content.)

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"Of great interest was the absence of the development of tolerance or resistance to the effects of the drug even after choline theophyllinate [choledyl] had been administered to patients for as long as 75 weeks."[3]

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1. Gagliani, J., et al.: Internat. Rec. Med. & Gen. Pract. Clin. *167*:251, 1954. 2. Grossman, A. J., et al.: Internat. Rec. Med. & Gen. Pract. Clin. *167*:263, 1954. 3. Batterman, R. C., et al.: Internat. Rec. Med. & Gen. Pract. Clin. *167*:261, 1954.

NEPERA CHEMICAL CO., INC., Pharmaceutical Manufacturers • Nepera Park, Yonkers 2, N.Y.

PROBLEM: When the patient died, a Connecticut doctor was sued for malpractice in prescribing use of a nasal spray consisting of 1% solution of Pontocaine after a polyp was removed. Could the jury find malpractice although the only expert opinion on that point was given by a New York City doctor, who testified that although he did not practice in Connecticut he knew that in that state Pontocaine was never given by spray?

COURT'S ANSWER: Yes.

The Connecticut Supreme Court of Errors said that the mere fact that a physician has not practiced in the immediate neighborhood in which the claimed malpractice occurred does not disqualify him from testifying to standards of practice there (102 Atl. 2d 352).

PROBLEM: A doctor and a medical collection bureau wrote several letters to a patient's employer, soliciting aid in inducing her to pay a bill. Were the doctor and the bureau liable for damages on a theory that they unduly publicized her delinquency?

COURT'S ANSWER: No.

The Indiana Appellate Court reasoned that an employer has a legitimate interest in facts relative to debts owed by his employees, to guard against garnishment proceedings and to enable him to take pride in the reputation of his employees for paying debts. The fact that the communications may pass through the hands of the employer's clerks and stenographers makes no difference (78 N.E. 2d 789).

Washington LETTER

Congress Revamps Vocational Rehabilitation Program

FOR many years to come the country's physically handicapped will get a better break because of the generosity of the 83d Congress, which by and large did quite a bit to earn the title of "economy-minded."

The Congress has thoroughly revamped the program under which the federal government makes grants to states for vocational rehabilitation work and gives them technical leadership and assistance. In the past, state officials complained that federal experts went beyond this and attempted to dominate the activities.

Here are the major provisions of the new legislation:

• Rehabilitation of 70,000 persons will be attempted during the current fiscal year under the U. S. and state joint plan, in contrast to 60,000 annually in the past. The following year the goal is 100,000 rehabilitated, and by 1959 it will increase to 200,000.

• The legislation greatly increases federal grants for the training of personnel to handle rehabilitation—physicians, physical therapists, occupational therapists, counselors, and other specialists required for rehabilitation work and research.

• The new program, following the "back to the states" Eisenhower philosophy, gives the states greater flexibility in handling federal grants by removing a number of restrictions which federal officials were said to have employed in the past to reach out for more power. Also, the states will establish their own standards, rather than attempt to meet those set up by Washington.

• Federal grants will be stepped up, but at the same time the law contains mechanism to require greater state participation. To show that the federal government means business, it is increasing rehabilitation grants from $23 million the past fiscal year to $30 million. Furthermore, the United States is committed, for the indefinite future, to

(Continued on page 60)

"You're right, Mama! I did need a change of hobby! Making girls instead of boys is lots more fun!"

THE EVIDENCE...

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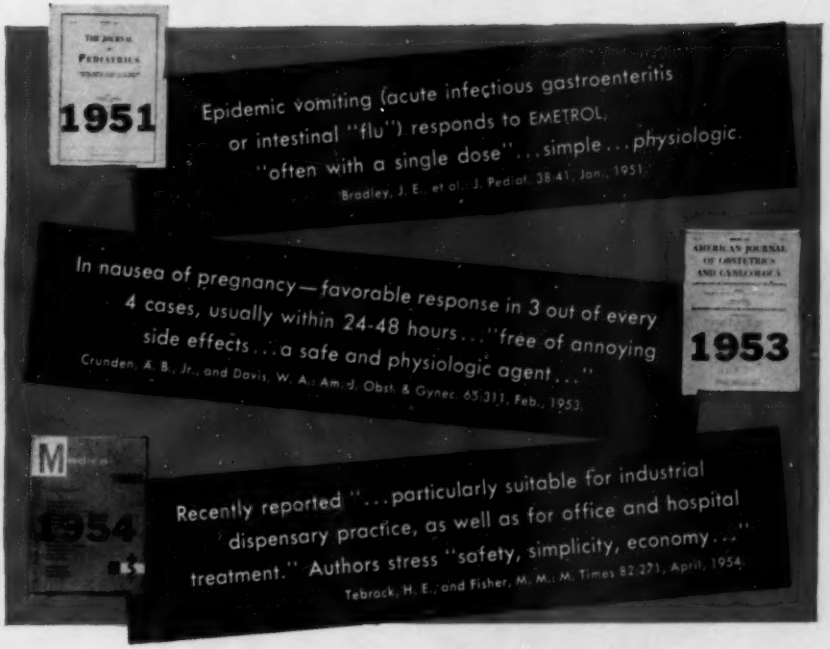

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TABLETS

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spend many more millions of dollars annually.

• Tied in with this law is another new law, the Hill-Burton expansion, which earmarks $10 million for grants for constructing and equipping clinics and health centers to rehabilitate the handicapped. So determined was Congress to get more of these facilities built that it is requiring the states to spend rehabilitation grants for rehabilitation work, or forfeit the money. Other earmarked money in the Hill-Burton expansion law actually may be shifted around by state health officers.

• The Department of Health, Education, and Welfare will make any studies and investigations, conduct demonstrations, and give technical assistance to the states. The federal government will help in setting up "sheltered" or subsidized workshops where severely disabled persons can earn all or part of their cost of living.

Congress was impressed with the self-supporting aspect of vocational rehabilitation. It was told by the experts that the immediate costs will be returned fourfold in decreased public relief costs and additional income tax revenue from rehabilitated workers. There was some questioning of the ratio, inasmuch as some rehabilitation operators claim total credit for rehabilitating patients when, actually, most of the assistance comes from unrelated sources. However, the saving is recognized as being substantial.

Sen. W. A. Purtell (R., Conn.), who is chairman of a special Senate Health Subcommitte which held extensive hearings on the legislation, summed up the prospects in a

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talk on the Senate floor, when the bill was up for a vote. He said:

> The committee believes that the bill would accomplish two things that are essential in an expansion of vocational rehabilitation services for the disabled. First, the bill provides state agencies with a maximum of responsibility and operational freedom to carry out that responsibility. Second, it provides express authority to the Department of Health, Education, and Welfare to perform the federal functions which are clearly necessary for the success of any major undertaking in this federal-state program.

In both Senate and House, the bills were passed unanimously. The only difference in views was the Senate's demand that a more liberal fund be voted for training of personnel in rehabilitation work. This demand was compromised in conference.

When adjournment time approached without floor action in Senate or House on the administration's reinsurance bill, the White House really turned on the pressure. Here are some of the operations, engineered by the White House, Secretary Hobby, and Senate and House Leadership.

Mr. Eisenhower invited to a White House luncheon 17 individuals who are high officials in insurance companies, which up to that time had opposed reinsurance or had not taken a stand. He couldn't get a flat pledge of support out of them, but he did get a friendly statement of cooperation.

Mrs. Hobby, accompanied by a fine staff of persuaders, journeyed to Detroit to address the national convention of state insurance commissioners, whose witness before congressional committees had roundly denounced the reinsurance proposal. Mrs. Hobby's direct appeal to the convention wasn't immediately effective, but her assistants didn't waste their time. They prevailed on the commissioners to set down on paper some of their objections.

Back in Washington, the Hobby staff immediately started to redraft the bill to meet the commissioners' objections.

At the same time, a committee appointed by the commissioners sat down with the Hobby people and did more work on the bill, attempting to point it in the direction that the commissioners might favor.

On Capitol Hill, the Senate Health Subcommittee reported out the bill without recommendation, but the full Labor and Welfare Committee hurried it to the floor with a favorable report.

In the House, Chairman Charles Wolverton (R., N. J.) kept his Interstate and Foreign Commerce Committee in almost daily sessions on reinsurance. This, coupled with direct pressure from the administration, resulted in the bill's being reported out two days after the Senate committee acted.

Meanwhile, one of Mrs. Hobby's assistants called in representatives

of the American Medical Association, principal critic of the bill. The doctors were shown amendments prepared to satisfy the insurance commissioners and asked to change their position.

Two days later, AMA representatives were called to the White House for a meeting with Mrs. Hobby, Sherman Adams, assistant to the President, and a group of insurance executives who had swung their support behind the bill.

Convinced that the amendments did not significantly change the bill, the AMA informed the administration that it would have to continue its opposition. When the House vote came, less than a week later, it was a stunning defeat for Mrs. Hobby and the Eisenhower administration. There was no clear explanation for the 238 to 134 vote to send the bill back to committee—in effect killing it for the session. A large block of Democrats who customarily vote for any liberal program switched this time, arguing that reinsurance was stupid and inadequate. Conservatives just didn't want the bill. The next day Mr. Eisenhower, with considerable feeling, said he would continue to work for the bill as long as he is President.

Washington Notes

¶ The Hill-Burton program will acquire a total of $110 million for grants during the next twelve months—$75 million under the old

law for general hospitals and $35 million for clinics, rehabilitation centers, chronic disease hospitals, and nursing homes under the new act.

¶ The Department of Health, Education and Welfare has $1.6 billion to spend in the current fiscal year, which is less than last year but more than President Eisenhower asked.

¶ Young residents, deferred from military service last year, jammed up the planning when they delayed asking for commissions at the end of the hospital year. To fill the gap, Selective Service had to start processing of older men. Eventually all the younger ones will be called, and it was anticipated that they would recognize this and act faster to get their commissions.

¶ Foreign countries now are able to obtain stable as well as radioactive isotopes from Atomic Energy Commission for medical and other research.

¶ Two by-products of the tax revision measure will help families to pay their medical bills; they now are allowed a higher percentage of deductions for medical expenses, and the maximum deductions are doubled. Both provisions were accepted by Senate and House without debate.

¶ Like the dependent care bill, legislation for military medical scholarships was not introduced in time for action before adjournment.

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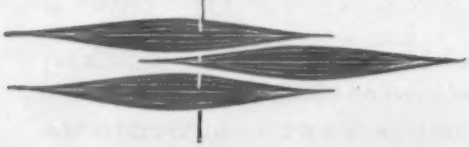

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MODERN MEDICINE
THE JOURNAL OF DIAGNOSIS AND TREATMENT

THE EDITOR'S PAGE

by WALTER C. ALVAREZ, *Editor-in-Chief*

The Postcholecystectomy Syndrome

Recently, I read a learned article on the postcholecystectomy syndrome in which the authors did a lot of theorizing about spasm of the sphincter of Oddi, dyskinesia of the common duct and the sphincter, and a supposed lack of proper relations between the functions of the duodenum and the biliary duct system.

The article disappointed me because nowhere in it did I find note of such facts as that the usual and probably commonest reason for the postcholecystectomy syndrome is the removal of a gallbladder that was not causing the patient's symptoms. Often a stoneless gallbladder is normal and should not be removed. And in half the cases in which stones are found, they are not producing symptoms. When the patient returns, unhelped by the operation, a well-taken history usually shows the same symptoms as before surgery, and these are the symptoms of a neurosis or a minor psychosis.

In many cases the syndrome for which the gallbladder was removed was migraine, recognized or unrecognized. More of us need to become convinced that migraine is practically never relieved by the removal of a diseased gallbladder. On reviewing the histories of 500 patients with migraine, I found only 3 cases in which the patient for a time seemed to have been relieved of the headaches by the removal of the gallbladder.

The commonest cause, then, for a postcholecystectomy syndrome is persistence of the same old symptoms. When, after the operation, the patient continues to have pain in the right upper quadrant of the abdomen, the most important question is, "Did the bladder contain stones?" If the symptoms are those of a

neurosis and the gallbladder did not contain stones, and especially if it was removed because a roentgenologist thought it emptied a little slowly, the operation was probably ill-advised.

If the gallbladder contained no stones, the chance is slight that there are now stones in the common duct. If the gallbladder was full of small stones, some may well have been left in the duct system. One suspects this if the patient continues to have colicky pains much like the old ones, with perhaps a slight fever, a chill, or, after an attack, a slight increase in the amount of serum bilirubin. If, at the time of operation, the common duct was explored and stones were found, it is important to find out if drainage continued for more than six weeks, because this would suggest that a stone was left, blocking the ampulla.

It is also significant if, before the operation, the patient suffered from typical gallstone colic requiring morphine. If so, cross-questioning is important to see if the same type of colic now exists, with the same location and the same extension to the back. This indicates that stones were left in the common duct.

In a few cases, the eating of eggs or chicken or the drinking of coffee can cause colics closely resembling those produced by gallstones. In some cases I have seen these colics persist after the gallbladder had been removed and the common duct explored and drained. The pains stopped coming only when the patient stopped eating the offending food.

In many cases of postcholecystectomy distress, the physician will do well to study the function of the liver to make sure that there is no evidence of hepatitis. Every effort will, of course, be made to eliminate peptic ulcer, cancer of the stomach, diaphragmatic hernia, and angina pectoris.

Narcotine—A Remedy for Cough

It is remarkable how at times drugs which have been laid aside for years and forgotten get picked up again and are found to be decidedly useful. Narcotine, an alkaloid derived from opium, was discovered by Robiquet in 1817. It has recently been pronounced an excellent quieter of cough. Since the compound, like papaverine, has no tendency to produce addiction, it may be that before long we will see narcotine included in many commercial remedies for coughs. But the drug will still come under the scope of the Harrison Act.

Refractory Heart Failure

WILLIAM A. SODEMAN, M.D.
University of Missouri, Columbia

*When therapy for congestive heart failure becomes ineffective, the diagnosis should be reviewed and the treatment reevaluated.**

ERRORS of diagnosis or treatment rather than lack of cardiac reserve may explain refractory behavior of supposed congestive heart failure.

DIAGNOSIS

The *primary diagnosis* may be incorrect. Edema can be caused by hepatic cirrhosis, nephrosis, or nephritis as well as by cardiac congestive failure. Some forms of heart disease, including myxedema, hyperthyroidism, beriberi, and active myocarditis, resemble congestion but do not improve with the usual treatment for congestive failure.

Anatomic or mechanical defects such as constrictive pericarditis produce signs and symptoms of congestive failure but require specific therapy. Other anatomic lesions, such as mitral stenosis, patent ductus arteriosus, and other types of arteriovenous fistulas, may cause progressive cardiac failure and need surgical therapy.

Additional cardiac factors sometimes arise during therapy and interfere with good results. Myocardial infarction can precipitate congestive failure that was previously controlled. Elderly patients may have infarction without pain.

Cardiac arrhythmias, particularly when rapid, are sometimes the cause of congestive failure. Some arrhythmias develop insidiously without the patient's knowledge. Hypertensive states, active rheumatic fever, or bacterial endocarditis may produce decompensation and necessitate new therapy.

Concomitant disease outside the vascular system often interferes with treatment for congestive failure. Anemia may increase cardiac output and induce decompensation. In some cases transfusion is necessary but must be used cautiously for a patient with potential or actual congestive failure.

Pulmonary infarction is a source of refractoriness to therapy and may be manifest only by slight fever with tachycardia or by pulmonary findings likely to be considered signs of pneumonia. Hyperthyroidism with heart failure is sometimes obscured, particularly among elderly patients with auricular fibrillation. Malnutrition with protein depletion caused by digitalis, low-salt diets, or other circumstances occasionally interferes with treatment.

TREATMENT

Suboptimal therapy may be successful for early congestive failure

*Refractory heart failure. J. Missouri M. A. 51:379-383, 1954.

but becomes inadequate as the disease progresses.

Excessive physical activity may produce decompensation.

Digitalis dosage should be carefully scrutinized. Each patient requires individualized dosage even if the product used has an only slightly variable absorption factor. Patients sometimes respond initially to inadequate digitalis dosage because of rest and diuretics and later, when no longer resting, are considered refractory. Digitalis toxicity may precipitate congestive failure.

Water restriction can produce hypertonic dehydration with urea and salt retention and lead to a state suggestive of refractory heart failure. Electrolyte disturbances are being increasingly recognized as important complications of therapy for congestive failure.

Salt restriction may cause the following problems: [1] During the salt-losing phase of nephritis restriction of sodium occasionally causes severe dehydration. [2] A patient with a restricted intake may be getting additional sodium by disregarding orders unknowingly. Unless properly instructed, a patient may not consider sodium bicarbonate or foods containing sodium as in the category of salt. [3] An unpalatable low-sodium diet may lead to poor food intake.

Mercurial diuretics are not effective when heart failure so reduces glomerular filtration that no electrolyte is available for mercurial action in the tubules. The situation is sometimes remedied by slow intravenous administration of aminophylline one to one and a half hours after the mercurial diuretic.

Some patients become refractory to mercurial diuretics because hypochloremic alkalosis develops. Treatment consists of discontinuing the diuretic and giving ammonium chloride or dilute hydrochloric acid.

The low-salt syndrome may develop with use of mercurials and sodium restriction and on occasion is mistaken for myocardial infarction, pneumonia, or terminal nephritis if the patient has hypertensive disease. The diuretics should be discontinued and hypertonic sodium chloride administered.

Another electrolyte disturbance is chloride acidosis caused by large doses of ammonium chloride. The onset is insidious and the disorder may be confused with the low-sodium syndrome. Chloride administration should be halted and the acidosis treated with intravenous lactate or bicarbonate.

¶ ULCERATIVE COLITIS is most effectively treated by a method designed to alleviate stress in the patient's life. William J. Grace, M.D., Ruth H. Pinsky, M.A., and Harold G. Wolff, M.D., of New York Hospital–Cornell Medical Center, New York City, find that fewer deaths, operations, and serious complications occurred among 34 subjects thus managed than among a comparable group handled by diet and medication.

Gastroenterology 26:462-468, 1954.

Interpretation of Liver Function Tests

FRANK W. KONZELMANN, M.D.
Central Dispensary and Emergency Hospital, Washington, D.C.

*Systematic selection of function tests and diagnostic skill in interpretation of results are necessary to detect hepatic insufficiency.**

SINCE liver insufficiency may exist without jaundice or other symptoms and may be masked by disease of another organ, laboratory studies must be performed when the functional capacity of the liver is doubtful. Selected groups of tests should be repeated at intervals; the result of a single, random determination may be misleading. In the final analysis, diagnostic skill is most important and outweighs results of the laboratory tests.

Serum bilirubin elevation is a sign of hepatobiliary disease or excessive hemolysis but has no other diagnostic importance.

Urine examination for bilirubin may reveal hepatobiliary disease many days before symptoms appear.

Bromsulphalein retention has little diagnostic significance when the patient has jaundice. Retention that occurs before the icteric stage of hepatocellular disease is highly suggestive of liver cell involvement. During the recovery stage of hepatitis when the patient is asymptomatic and all other tests indicate normal function, retention of the dye is a sign of persistent disease.

Urine urobilinogen studies aid in recognition of liver cell injury and the differential diagnosis of jaundice. However, values are deceptively low if antibiotics are given or if bile pigments do not enter the intestinal tract because of obstruction or because the liver does not excrete bile.

Flocculation tests are valuable aids, especially in distinguishing hepatic parenchymal damage of extrahepatic biliary obstruction from other forms of damage. Results may be negative with liver cell disease or positive when the liver is not involved. The several tests are not always positive at the same time.

Serum protein studies are useful. The level of total serum proteins is of little diagnostic aid and the albumin-globulin ratio and the total globulin values may not reflect alterations. However, the pattern formed by the relative amounts of each globulin fraction is of diagnostic significance.

Serum alkaline phosphatase elevations below 10 Bodansky units suggest hepatocellular disease when other studies show dysfunction; elevations above 15 units with normal results in other tests are indicative of extrahepatic obstruction. Elevation is meaningless with some bone diseases.

*Selection and interpretation of liver function tests. Pennsylvania M. J. 57:217-229, 1954.

Clinical diagnosis: Portal cirrhosis (autopsy)

	S.B.1′	S.B.T.	T.	C.C.	Alk. Phos.	B.	A.K.	P. P.K.
	4.0	10.0	16	4		39	40	40
	2.0	8.0	14			35	40	40
	1.5	6.0	12	3		30	50	50
	1.0	4.0	10			25	60	60
	0.8	2.0	8	2		20	70	70
N	0.6	1.8	6			15	80	80
O	0.4	1.6	4	1		10	90	90
R						5	100	100
M								
A	0.2	1.4			4	0		
L		1.2			8	after		
		0.8			12	24 hours		
					20	negative		

The picture is suggestive of hepatocellular disease because of the hyperbilirubinemia, the elevation of thymol turbidity and cephalin flocculation, the very slight elevation of alkaline phosphatase, and the low prothrombin activity. The negative result in the urine bile test is understandable because of the relatively moderate elevation of serum bilirubin. Bromsulphalein elevation out of proportion to the degree of jaundice and the fact that the elevation disappeared in twenty-four hours are against diagnosis of obstructive lesion.

Low *total cholesterol* and a low *percentage of esters* are evidence of liver cell injury when serum bilirubin levels are low. A high total serum cholesterol sometimes occurs with biliary cirrhosis but is unlikely with other parenchymatous disease.

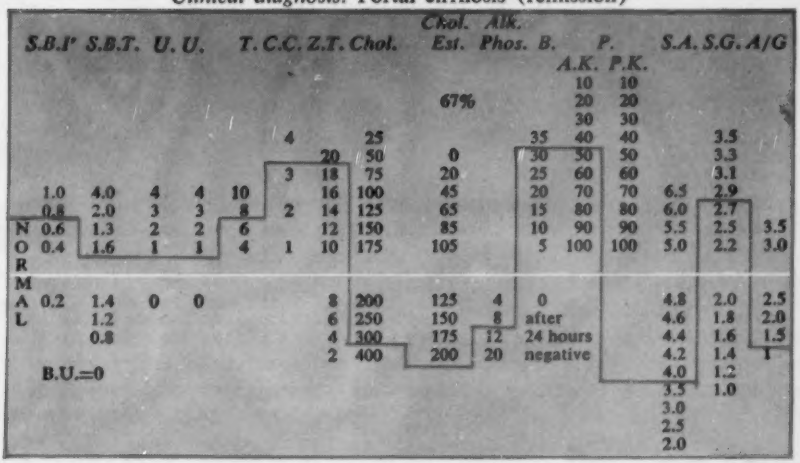
Prothrombin activity is of little use for diagnosis because the activity is disturbed by many conditions and because precise determinations are difficult. A pronounced rise in prothrombin time within twenty-four hours after the injection of vitamin K parenterally may indicate good liver function if initial activity was low.

Generally, a fairly good correlation exists between functional disturbances revealed by the tests and morphologic changes shown by needle biopsy. However, the biopsy sometimes provides the only information of diagnostic value. Also, laboratory studies may be positive when tissue changes are not evident.

KEY TO TABLE ABBREVIATIONS

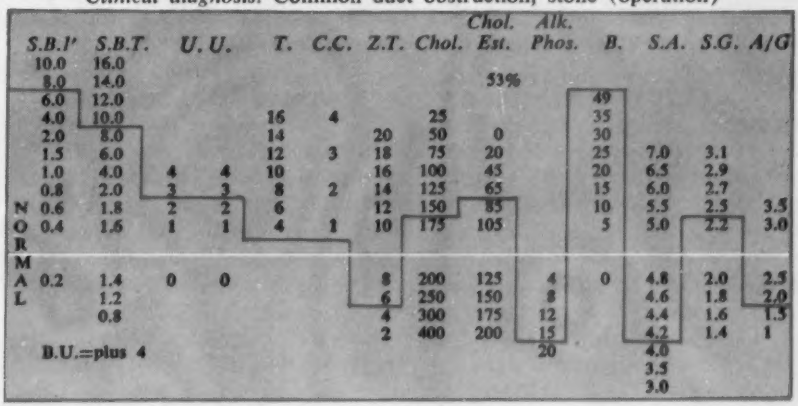
B.U.	Bilirubinuria—spot test
S.B.1′	Serum bilirubin 1′ (direct) reading in mg. per 100 cc. serum
S.B.T.	Total serum bilirubin in mg. per 100 cc. serum
F.U.	Fecal urobilinogen in Ehrlich units per 100 gm. feces
U.U.	Urine urobilinogen in Ehrlich units per two-hour specimen, two days
T.	Thymol turbidity in units
C.C.	Cephalin-cholesterol flocculation
Z.T.	Zinc turbidity (gamma globulin), 2 to 8 units
Chol.	Total serum cholesterol in mg. per 100 cc. serum
Chol. est.	Serum cholesterol esters in mg. per 100 cc. serum. Per cent of total in same column
B.	Bromsulphalein—5 mg. per kilogram—reading in forty-five minutes
Alk.Phos.	Serum alkaline phosphatase in Bodansky units
P.	Prothrombin activity
A.K.	Before vitamin K administration
P.K.	After vitamin K administration
S.A.	Serum albumin in grams per .100 cc. serum
S.G.	Serum globulin in grams per 100 cc. serum
A/G	Albumin-globulin ratio

Clinical diagnosis: Portal cirrhosis (remission)



The pattern is in accord with hepatocellular disease. The low serum bilirubin levels; the moderate elevation of thymol turbidity, cephalin flocculation, zinc turbidity, and alkaline phosphatase; the great rise and rapid fall of the bromsulphalein level; and low prothrombin activity suggest hepatocellular disease. Low urine urobilinogen is difficult to explain. Elevation of cholesterol and cholesterol esters is disturbing. An obstructive factor is likely.

Clinical diagnosis: Common duct obstruction, stone (operation)



This picture is compatible with extrahepatic biliary obstruction. Moderate elevation of urine urobilinogen does not coincide with the rest of the picture. The normal thymol turbidity, cephalin flocculation, and zinc turbidity and the nearly normal cholesterol ester do not point to hepatocellular disease. Alkaline phosphatase above 15 units suggests obstruction, but borderline data are hard to interpret.

Clinical diagnosis: Infectious hepatitis (autopsy)

	S.B.I'	S.B.T.	U. U.		T.	C.C.	Chol.	Chol. Est.	Alk. Phos.	B.	P.	A.K.	P.K.	S.A.	S.G.	A/G
	20.0											10	10			
	18.0															
	16.0															
	14.0	20.0														
	12.0	18.0														
	10.0	16.0										10	10			
	8.0	14.0						16%		53		20	20			
	6.0	12.0										30	30			
	4.0	10.0			16	4				35		40	40			
	2.0	8.0			14			0		30		50	50			
	1.5	6.0			12	3		20		25		60	60	7.0	3.1	
	1.0	4.0	4	4	10		100	45		20		70	70	6.5	2.9	
	0.8	2.0	3	3	8	2	125	65		15		80	80	6.0	2.7	
N	0.6	1.8	2	2	6		150	85		10		90	90	5.5	2.5	3.5
O	0.2	1.6	1	1	4	1	175	105		5		100	100	5.0	2.2	3.0
R																
M																
A	0.2	1.4	0	0			200	125	4	0				4.8	2.0	2.5
L		1.2					250	150	8					4.6	1.8	2.0
		0.8					300	175	12					4.4	1.6	1.5
							400	200	20					4.2	1.4	1
	B.U.=Pos.						500		30					4.0		0.9
														3.5		
														3.0		
														2.5		

The low urine urobilinogen may be explained by the absence of bile pigments in the intestine. Stools were acholic. The low thymol turbidity reading shows the variability of flocculation tests. The elevation of cephalin cholesterol is more in accord with the postmortem diagnosis and the low serum albumin. So, also, is the low total cholesterol and cholesterol ester value.

Clinical diagnosis: Homologous serum jaundice

	S.B.I'	S.B.T.	U. U.		F.U.	T.	C.C.	Chol.	Chol. Est.	Alk. Phos.
	12.0	18.0								
	10.0	16.0	10	10						
	8.0	14.0	9	9						
	6.0	12.0	8	8						
	4.0	10.0	7	7		16	4			
	2.0	8.0	6	6		14			50%	
	1.5	6.0	5	5		12	3			
	1.0	4.0	4	4	30	10				
	0.8	2.0	3	3	40	8	2	125	65	
N	0.6	1.8	2	2	50	6		150	85	
O	0.4	1.6	1	1	75	4	1	175	105	
R										
M										
A	0.2	1.4	0	0	100			200	125	4
L		1.2						250	150	8
		0.8						300	175	12
								400	200	20
								500		30

The pattern is suggestive of hepatocellular disease. This patient had received plasma and blood transfusions after an accident three months previously. The low fecal urobilinogen, the elevated urine urobilinogen, the elevated thymol turbidity and cephalin flocculation, the low cholesterol ester value, and the very moderate elevation of serum alkaline phosphatase all speak for hepatocellular disease.

Pulmonary Abscesses and Cavities

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*Many significant similarities and dissimilarities are found among lung abscesses and cavities of different origins.**

COMPARISON of tuberculous and nontuberculous abscesses and cavities helps define a rational approach to prevention and treatment. The incidence of tuberculosis is greater than that of other necrosing bacterial infections, but the latter are more easily treated. Since the advent of specific chemotherapy, however, the principles of treatment for tuberculous and nontuberculous infections are more closely approximated. External drainage is seldom necessary, collapse therapy is restricted, and surgical resection is often the best treatment.

With acute nontuberculous abscess, necrosis rapidly progresses to liquefaction and sloughing. The phase of coagulative necrosis is very brief and the abscess usually is evacuated within a week or two. With tuberculosis, the same changes are usually very slow. With acute disease, liquefaction and sloughing may occur within several weeks or months but are usually delayed longer. The necrotic mass may never liquefy and instead be transformed by fibrous organization and calcification into a solid caseous focus.

Aseptic necrotic lesions are rarely the sites of abscesses from superinfection. With few exceptions, abscess formation does not occur with usual bacterial and viral pneumonia. Inflammation leading to abscess usually is initiated by infection which has a peculiar capacity to cause tissue death. Onset is acute and does not differ from that of nonnecrosing pneumonia. Within a few days, however, purulent sputum which may become profuse and contain elastic tissue is expectorated.

Most nontuberculous abscesses are due to lung infection by inhalation, and only a few are caused by septic emboli. Usually, a single organism is responsible. Septic foci are seldom associated with putrid abscess except in the mouth, when pyorrhea alveolaris is active. High correlation exists between the occurrence of lung abscess and impairment of the mechanisms which ordinarily protect against aspiration. Almost all putrid abscesses are due to such infection.

Embolic abscesses are often multiple and bilateral, but inhalation abscesses are usually single, unilateral, and unilobar. An important fundamental factor is the concen-

*A clinical consideration of abscesses and cavities of the lung. Bull. Johns Hopkins Hosp. 94:227-237, 1954.

tration of infection. With embolic abscess, a septic embolus loaded with bacteria lodges in a branch of the pulmonary artery. With tuberculosis, the initial infection is caused by very few bacilli which are so virulent that even one may be capable of producing a lesion.

With nontuberculous abscess, inhalation of purulent material from the mouth may cause the infection. Stagnation in the lung also may be a factor and is favored by undue exposure, bronchitis, or alcoholic intoxication, all of which slow ciliary action. Inhalation of vomitus with bacteria adds to the risk by producing a good field for bacterial growth.

During early nontuberculous necrosing pneumonia, common signs are dullness, decreased intensity of breath sounds and vocal fremitus, and a sparseness of rales. These findings often persist even after the abscess breaks and evacuates because of the physical state of the diseased tissue. The cavity wall becomes organized with fibrous tissue, and classical signs of bronchial and amphoric breathing may be elicited. Medium or slightly coarse rales in the case of recently developed tuberculous pneumonia suggest necrosis and sloughing.

During the natural course of nontuberculous cavities, recurrent bronchial obstruction occurs, causing exacerbations. When this subsides, the quantity of sputum diminishes and the foul odor is gone. Localized rales usually persist for many months.

Even though all symptoms subside, residual infection can remain latent in the damaged tissue for about six months, and relapses may occur. Except for this possibility, the damage is replaced with healthy fibrous tissue and the healed cavity remains permanently closed.

Healing of tuberculous cavities is usually imperfect because of the durability of the tubercle bacillus and the slow softening and liquefaction of the caseous focus. Free bronchial communication with the cavity helps perpetuate infection and hinder healing, and lack of healing and survival of bacilli lead to bronchial dissemination and progressive disease.

¶ TREATMENT OF HERPES ZOSTER with cortisone shortens the acute phase, diminishes intense pain, and reduces incidence of associated disorders. Maxwell L. Gelfand, M.D., of New York University, New York City, noted relief within twenty-four to thirty-six hours in 4 of 5 patients aged 32 to 72 years. Healing of the herpetic eruptions required the usual one to three weeks. Uveitis and conjunctivitis cleared rapidly in one individual, but improvement was slower in a patient with leukemia. The hormone was given orally, 200 mg. in four divided doses the first day, followed by 100 mg. daily for seven days, and then 25 mg. twice daily for four days. No undesirable metabolic or physiologic disturbances occurred.

J.A.M.A. 154:911-912, 1954.

Long-Term Anticoagulant Therapy

JOHN TULLOCH, M.D., AND IRVING S. WRIGHT, M.D.
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*When adequate laboratory facilities are available for control, long-term prophylactic anticoagulant therapy of out-patients may be used to decrease thromboembolic episodes.**

COMPLETE protection from thromboembolic complications cannot be assured during continuous treatment with anticoagulants, but incidence of such episodes is decreased.

Experience with 227 out-patients given dicumarol or Tromexan for four weeks or longer demonstrates the relative safety of the procedure. Long-term anticoagulant therapy may be instituted by any physician familiar with the use of such drugs, provided proper laboratory control is utilized.

Indications for prolonged anticoagulant therapy include rheumatic heart disease with peripheral and pulmonary emboli, thrombophlebitis, myocardial infarction and ischemia, glaucoma, arterial thrombosis and embolism, cerebral thrombosis, thrombosis of the central vein of the retina, thromboangiitis obliterans, pulmonary embolism, and miscellaneous conditions such as essential polyangiitis. Patients receiving long-term anticoagulant therapy must be intelligent and cooperative and realize the necessity of taking the prescribed daily dose and getting frequent prothrombin time determinations.

At start of therapy, prothrombin time is determined two or three times weekly. When the dosage is stabilized, determinations are made weekly; for a few patients, the interval between estimations may be from ten to fourteen days. At each visit the patient is questioned and examined if necessary.

Prothrombin estimation is done by the Quick method, using rabbit lung as a source of thromboplastin. Normal results vary between fourteen and sixteen seconds. For patients receiving anticoagulants, a prothrombin time of twenty-five to thirty seconds is desirable.

Both thromboembolic phenomena and hemorrhagic complications may occur at all levels of prothrombin time or activity. Definite thromboembolic episodes are most liable to occur when the prothrombin time is less than twenty seconds, and hemorrhagic complications are most common when the prothrombin time is over forty seconds.

Slight trauma will induce local bleeding at any level of prolongation of the prothrombin time. Manifestations of hemorrhagic complications include ecchymoses, hematomas, hematuria, epistaxis, hemoptysis, bleeding hemorrhoids or gums, melena, vaginal bleeding, hemate-

*Long-term anticoagulant therapy. Circulation 9:823-834, 1954.

mesis, excessive menstrual bleeding, cerebral hemorrhage, intracranial bleeding, bleeding into the anterior chamber of the eye, acute hemorrhagic glaucoma, traumatic hemarthrosis, and bleeding from cuts.

Hemorrhagic complications associated with prolonged prothrombin times are treated by discontinuance of the anticoagulant and by the use of vitamin K_1.

Surgery may be done during long-term anticoagulant treatment by lowering the prothrombin time to near normal, although the risk of thromboemboli is increased. The anticoagulant should be resumed as soon as possible.

Among the 227 patients, all of whom had severe heart or vascular disease with recurrent thromboembolic complications, except 8 with glaucoma, 26 had 40 definite or possible thromboembolic episodes during therapy, an incidence of 11.4%. Nearly 19% of the patients had hemorrhagic complications during treatment.

Thrombocytopenia from Quinidine Sensitivity

PERCY BARKHAM, M.D., AND LEANDRO M. TOCANTINS, M.D., PENNSYLVANIA HOSPITAL AND THE JEFFERSON MEDICAL COLLEGE, PHILADELPHIA, describe an instance of thrombocytopenia purpura developing in a woman given quinidine therapy for a heart condition.

In vitro and in vivo studies showed that the fundamental effect of quinidine on the platelets was direct destruction; agglutination was of less prominence. The rapid fall in platelet level after contact of quinidine with the blood suggested that inhibition of platelet formation by megakaryocytes in the bone marrow was not significant. Since platelet lysis preceded agglutination, the importance of platelet agglutinins as a cause of idiopathic thrombocytopenia is probably overemphasized. A plasma factor may also be involved; no morphologic change occurred in the patient's washed platelets alone after contact with quinidine. The highly specific nature of the reaction was demonstrated when quinine, the optical isomer of quinidine, had no effect on the patient's blood.

The hypersensitive state apparently does not develop until after repeated exposure to the drug. In vitro hypersensitivity persisted for at least four weeks but could not be demonstrated after six weeks.

When a test dose of quinidine was administered orally after the patient had recovered from the thrombocytopenia, the number of platelets was decreased greatly within ninety minutes, bleeding time was prolonged, and clot retraction disappeared.

Observation on the thrombocytopenia due to hypersensitivity to quinidine. Blood 9:134-143, 1954.

Heart Failure and Thoracic Deformity

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*Pulmonocardiac failure may be the end result of severe thoracic deformity and should not be mistaken for rheumatic heart disease with cardiac failure.**

THE etiologic factors in thoracic deformity are not always clear and include congenital or hereditary defects, rickets, trauma, tuberculosis, and poliomyelitis.

Severe chest deformities occur more often in males than in females, and right-sided kyphoscoliosis is more frequent than the left-sided deformity. Patients with such lesions seldom live to old age.

Kyphosis, kyphoscoliosis, and pectus excavatum are the most common distortions. Other deformities include lordosis and pectus carinatum. Slight kyphoscoliosis and pectus excavatum probably do not cause harmful intrathoracic alterations.

The chief symptom in patients with severe thoracic deformity is dyspnea, which usually appears after the deformity is complete. Although slight difficulty in breathing may exist for years, the interval between severe dyspnea and death is usually short.

Respiration with kyphoscoliosis is mechanically inefficient and chiefly abdominal, the ribs moving ineffectively. Vital capacity is reduced by one-half or more and the patient attempts to compensate by overbreathing. The habitual dyspnea becomes progressive, and paroxysmal dyspnea, asthmatic wheezing, and episodes of weakness or syncope occur.

The transition from simple to severe dyspnea marks the onset of pulmonocardiac failure. Palpitation, tachycardia, cough, and arrhythmias may be noted. Cyanosis, especially of the head and neck, may suggest a superior mediastinal mass. Any process reducing pulmonary function, such as infection or use of respiratory depressants, may lead to pulmonocardiac failure. Pneumonia, emphysema, bronchitis, bronchiectasis, and atelectasis are frequently associated with the condition and often do not respond to treatment. Even slight bronchitis in a patient with severe thoracic deformity may prove fatal.

Physical findings are difficult to determine and interpret. The patient's general appearance may suggest dwarfism due to poor development. Percussion is frequently unreliable. Murmurs are not typical and may resemble those with rheumatic heart disease. An apical presystolic murmur may be caused by a functional tricuspid stenosis which results from dilatation of the pul-

*Fatal cardiac failure in persons with thoracic deformities. Arch. Int. Med. 93:687-697, 1954.

monary valves and hypertrophy and dilatation of the right ventricle.

The second pulmonic sound is frequently accentuated. The pulses are occasionally unequal, possibly because of kinking of a subclavian artery. At times a gallop rhythm may be heard.

The roentgenographic findings include compression and atelectasis on the side of the deformity and compensatory emphysema on the opposite side. However, both atelectasis and emphysema may exist in the same lung. The heart usually has a mitral configuration as a result of right ventricle enlargement and rotation of the heart secondary to the deformity.

The electrocardiographic pattern with pulmonocardiac failure is usually consistent with chronic cor pulmonale because of right ventricular and auricular hypertrophy. In most cases, normal axis is seen and may be explained either by total displacement of the whole heart without rotation or by combined rotation in both longitudinal and anteroposterior axes, with neutralization because of the opposing effects.

The most prominent respiratory feature is an absolute and relative reduction in lung volume. Circulation time, venous and arterial pressures, and cardiac output are usually normal.

Dilatation and hypertrophy of the right ventricle are usually seen at postmortem examination. Dilatation may reach the point of tricuspid insufficiency. The pulmonary artery branches may be unequal because of developmental differences in the lungs.

Other findings include dilatation and arteriosclerosis of the pulmonary artery, small lungs, and evidence of emphysema, bronchitis, bronchiectasis, and pneumonia.

Congestion, edema, and alveolar collapse are seen microscopically. Congestion of the liver, spleen, and other organs is also evident.

Gallbladder Disease before Middle Age

GEORGE D. J. GRIFFIN, M.D., AND LUCIAN A. SMITH, M.D., MAYO CLINIC, ROCHESTER, MINN., suggest that the dictum "fair, fat female of 40" be abandoned as the concept of the typical patient with gallbladder disease.

Among 245 patients with cholecystitis, 3.3% were 20 years of age or less, 2.9% were between 21 and 25, and 8.2% were between 26 and 30. Thus, 14.4% were 30 years of age or younger.

Recognition that the disease may occur early in life is important. Too often age, infection, formation of stones in the biliary tree, and hepatic damage increase the surgical risk.

Although the majority of patients with gallbladder disease are female, neither pregnancy nor congenital hemolytic icterus appears to be an important etiologic factor.

Gallbladder disease in adolescents and young adults. J.A.M.A. 154:731-733, 1954.

Plastic Tube for Esophageal Cancer

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*A polyethylene tube to bridge the defect left by resection of esophageal carcinoma decreases operative mortality and makes for greater postoperative comfort.**

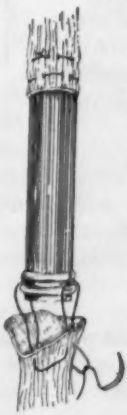
SINCE most patients live only a year or two after resection of esophageal cancer, an important requisite of surgical treatment should be a comfortable postoperative course. The conventional radical operations are formidable, and mortality rates are high; if the patient does survive the surgery, leaks from the anastomosis, strictures, esophagitis, ulcers, and pulmonary complications are common.

Substitution of a polyethylene tube for the resected portion of the esophagus greatly decreases operative mortality and morbidity and allows the patient more comfort than does an esophagogastrostomy. The patient can eat normally. Survival time is not increased, however, and the chances for permanent cure are not affected.

Any surgeon familiar with the principles of thoracic surgery may safely insert the polyethylene prosthesis. The tube, which is available in several sizes, does not absorb water and is chemically inactive with tissues, nonporous, and easily sterilized.

A fibrous sheath forms about the tube, which eventually becomes epithelized. Thus, a new esophagus without musculature is formed.

The right chest is incised without disturbing the diaphragm or other intraabdominal structures. As much of the esophagus as necessary is resected. Continuity of the upper alimentary tract is retained by placing the tube across the defect, between the upper and distal parts of the esophagus. The full cuff of the tube should be covered with esophagus. The tube is anchored at both ends with purse-string sutures. The mediastinal pleura is then closed over the tube, which may be left in place permanently or removed, if necessary, with an esophagoscope.



In 60 cases of tube insertion after resection of esophageal lesions, the operative mortality rate was less than 10%. Complications such as leakage or pulmonary infection were uncommon. No mediastinal abscesses, acid regurgitation, strictures, or esophageal ulcerations were noted. Every patient was able to eat normal meals postoperatively.

*Carcinoma of the esophagus: a new concept in therapy. Surgery 35:822-835, 1954.

Acute Inflammation of the Cecum

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Louisiana State University and Charity Hospital of Louisiana, New Orleans

*Conservative procedures should be used to treat acute inflammations of the cecum.**

BEFORE operation, acute inflammatory disorders of the cecum are usually diagnosed as acute appendicitis. However, resection is rarely necessary because cecitis generally subsides spontaneously.

Cecal inflammations which are acute and recent and not granulomatous may be classified as follows:

- Acute primary (idiopathic) cecitis
- Acute secondary cecitis
- Acute secondary pericecitis
- Acute cecal perforations

Use of the terms typhlitis and phlegmon in referring to cecal inflammations should be discontinued.

PATHOGENESIS

Acute primary cecitis is not common but probably arises when organisms reach the submucosa of the cecum through small mucosal abrasions. The process is similar to that with nonobstructive appendicitis.

Acute secondary cecitis is usually associated with terminal ileitis or acute appendicitis. Cecal diverticulitis, ulcerations of the cecal mucosa, and foreign body perforations may also initiate the condition.

The spread from ileitis or appendicitis is by continuity, from the wall of one organ to the wall of another. Cecitis apparently does not occur often with appendicitis, because a healthy segment of appendix usually found between the cecum and the site of appendical obstruction acts as a protective barrier. No similar condition exists with terminal ileitis, which is often accompanied by cecal involvement.

Pericecitis results most commonly from an inflamed appendix or fallopian tube lying in direct contact with the cecum. The serosal surface limits further spread, but is less effective when the inflammatory process is purulent or contact is prolonged.

Acute cecal perforation may oc-

*Acute inflammations of the cecum. Am. Surgeon 20:471-486, 1954.

cur as a primary event when a hard fecalith entrapped in a cecal haustrum of similar size causes pressure necrosis.

DIAGNOSIS

Acute inflammations of the cecum produce the signs and symptoms of appendicitis. A palpable, tender, right lower quadrant mass detected within two days of the onset of symptoms is suggestive of cecitis, but such a mass is infrequent.

Amebiasis, Crohn's type of ileocolitis, actinomycosis, and tuberculosis may produce cecal granulomas, but the illness is more chronic and systemic complaints, ulcerations, fistulas, and obstruction are more frequent than with acute cecitis.

Even at surgery the diagnosis may be uncertain, and primary cecitis is diagnosed by exclusion. With secondary cecitis, coexistent disease is noted. Inflamed contiguous organs indicate pericecitis.

TREATMENT

Except for making a biopsy, the cecum is left undisturbed in primary cecitis. When the cecal lesion is secondary to diverticulitis, salpingitis, or appendicitis, the condition is usually managed as if the cecum were not involved.

Any complicating pericecal abscess should be incised and drained extraperitoneally, if possible. Small intramural abscesses may be left, aspirated, or drained externally. A tube cecostomy should probably be placed at the drainage site.

Small cecal perforations can be sutured and the pericecal area drained, but some type of cecostomy is often advisable. Exteriorization may be necessary for large openings.

An ileocolostomy or ileocolic resection may be required when the ileocecal opening is obstructed by edema, inflammation, or purulent collections in the cecal wall. If the cecum is too friable or edematous to hold sutures for inversion of the stump after appendectomy, cecostomy should be done. When carcinoma is suspected, the abdomen is closed and preparations are made for reexploration.

Barium enema studies show cecal deformity for several weeks after cecitis, although the patient is asymptomatic.

¶ POSTMASTECTOMY LYMPHEDEMA may be caused by damage to the axillary vein incurred during manipulation, separation of the lymph nodes, and ligation of the venous tributaries. The changes are probably inflammatory. P. E. Russo, M.D., J. M. Parker, M.D., and H. H. Mathews, M.D., of the University of Oklahoma, Oklahoma City, find that the vessel is usually restored to normal caliber and appearance after three to four months if the arm is kept compressed by Elastoplast bandages. Venograms of 15 patients showed injuries ranging from slight distortion to complete occlusion.

South. M. J. 47:430-436, 1954.

Surgery for Patients with Diabetes

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Temple University, Philadelphia

*With attention to anesthesia, fluid and electrolyte balance, antibiotics, and control of metabolism and nutrition, the patient with diabetes mellitus can safely be subjected to even major surgical procedures.**

CAREFUL preoperative preparation is essential to successful management of the diabetic patient. Close supervision is necessary to be sure that such details as insulin dosage are being fulfilled. If the surgery is elective, preparation with a high-protein and carbohydrate intake augmented with vitamins to replenish liver glycogen, tissue, and serum proteins may be valuable. Fluid and electrolyte losses should be corrected.

The cardiovascular status of the patient must be thoroughly evaluated before surgery. Treatment for heart failure, angina, or arrhythmias is given if appropriate.

For cardiac diabetic patients, parenteral fluids and feedings when needed are administered at a slow rate as concentrated solutions of dextrose or fructose. Slight hyperglycemia is advisable in known cardiac cases, a fasting blood sugar level between 150 and 180 mg. being maintained before and after operation. High levels of blood sugar should be reduced gradually. Sustained hyperglycemia above 200 mg. should not be permitted because of predisposition to infection, poor wound healing, body protein loss, and ketosis.

Patients with occlusive vascular disease who have peripheral gangrene and infection should receive antibiotics preoperatively, and roentgenograms should be obtained to show any osteomyelitis and the extent of vessel calcification.

Insulin and fluid requirements must be tailored to meet the individual needs. However, some general rules may be followed. Depot insulin is administered subcutaneously on the day of operation at the time when parenteral feedings are started to replace meals and is given in dosage equal to preoperative maintenance amounts. The operation should preferably be in the morning, the first infusion replacing breakfast carbohydrate. Individuals scheduled for afternoon surgery may be given a liquid breakfast and subsequent parenteral feedings.

The intravenous feedings replace only the carbohydrate portion of the diet, omitting the estimated available carbohydrate from fat and protein. The infusion period extends over twelve to sixteen hours and is terminated in the late evening, if possible. The volume and concentration of fluid depend on

*Management of diabetes mellitus in patients undergoing surgery. J.A.M.A. 155:621-626, 1954.

the patient's fluid requirements, tolerance based on age and cardiovascular status, and caloric requirements. Solutions given during and immediately after operation do not contain sodium chloride unless a cause for electrolyte loss is known. Vitamin B complex and ascorbic acid should be added.

Increased caloric intake and replacement of electrolytes are needed if parenteral feedings are required longer than forty-eight hours. Supplements of regular insulin may be needed postoperatively.

Diagnosis of an acute intraabdominal condition in a diabetic may be difficult since acidosis occasionally causes abdominal pain, localized or diffuse, with nausea, vomiting, constipation, leukocytosis, and tachycardia. With acidosis, polyuria and polydipsia are likely to precede the onset of abdominal symptoms. Persistence of pain after treatment with fluid, electrolytes, and insulin for several hours is indication for laparotomy.

The patient with acidosis who requires emergency surgery should be treated vigorously with regular insulin, fluids, electrolytes, and antibiotics. Operation should be delayed for several hours if possible to institute diabetic management. Subsequent stabilization of the diabetes is simplified by surgical correction of the complicating disease.

Diabetes does not call for a particular anesthetic agent. Anesthesia to give rapid and successful conduct of the operation is the chief aim. Special care should be given to prevent anoxia during general anesthesia. During spinal anesthesia, hypotension should be avoided by the use of pressor substances to prevent coronary or vascular occlusion. Standard preoperative medications are used except in some emergency operations on the diabetic with ketosis and dehydration.

Total Transplant of Thyroid Gland

JULIAN A. STERLING, M.D., AND RALPH GOLDSMITH, M.D., ALBERT EINSTEIN MEDICAL CENTER, PHILADELPHIA, report the successful transplant of thyroid and parathyroid glands from the body of a 25-day-old infant to a 28-year-old woman with severe tetany. The patient is well fifteen months after the operation.

Within one hour after the infant's death, the entire thyroid gland was removed, including the vascular pedicles. The carotid arteries and jugular veins were secured against bleeding. The gland was bathed in and perfused with Darrow's solution containing 1 mg. of heparin per cubic centimeter. Within two hours, the transplantation was done. Postoperative radioactive iodine studies indicated function in the transplanted gland. The symptoms of hypothyroidism and hypoparathyroidism were eliminated.

Total transplant of thyroid gland using vascular anastomoses. Surgery 35:624-628, 1954.

Subtotal Resection of the Thyroid

JOSIAH H. SMITH, M.D.
Selma, Ala.

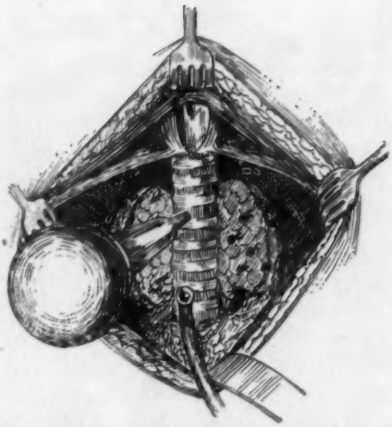
*The technic of subtotal thyroidectomy is based on the principle of complete elevation of the lateral lobes out of the neck to expose the posterior capsule before excision is begun.**

ROUTINE recurrent laryngeal nerve dissection and ribbon muscle division are unnecessary in the usual subtotal thyroid resection. Such measures increase trauma and the chance of hemorrhage and vocal cord paralysis.

The position of the patient on the operating table is important. A mid-Fowler's position is utilized to raise the neck to a higher level than the anterior chest wall. Forward flexion of the head relaxes the anterior neck muscles, facilitating retraction.

Intratracheal intubation anesthesia is employed, since a constant airway is maintained even with head flexed. A fantail ether screen permits comfortable exposure.

The cervical fascia and sternohyoid muscles are opened together in the midline, and the dissection is carried well above the thyroid cartilage. The sternothyroid muscles are freed separately to allow greater lateral retraction of the sternohyoid and better exposure of the superior thyroid poles.



Wound irrigation after dissection of lobes

Though good lateral exposure is achieved by dividing the ribbon muscles transversely and together, the superior exposure is not as satisfactory because of the upper insertion of the sternothyroid. Moreover, if this is done, division of the anterior jugular veins is necessary, which may lead to troublesome bleeding and a strong possibility of embolism. The venous stumps and fascia are prone to adhere to the skin flaps on closure, resulting in retraction of skin. The neck also may appear flattened postoperatively, due to muscle atrophy. Therefore, the ribbon muscles should be elevated in 2 separate layers and should not be cut transversely.

The posterior aspect of the right

*Technic of thyroidectomy. Ann. Surg. 139:529-535, 1954.

superior pole is dissected and elevated before the sternothyroid is opened. The superior pole vessels can then be easily handled at a later time. A similar dissection is performed on the left superior pole, and the sternothyroid is opened and dissected free of the gland.

The pyramidal lobe is freed, exposing the trachea above the isthmus. Thyroid ima vessels are ligated, if necessary, when the trachea below the isthmus is cleared. This exposure prevents possible tracheal injury during removal of the lobes and the isthmus.

Inferior traction on a Kocher clamp placed near the right superior pole aids visualization during division of the right suspensory ligament and completion of the dissection around the superior vessels. The vessels are clamped above all thyroid tissue and divided well down on the gland, leaving long stumps in case bleeding starts inadvertently during ligation. All tissue attached to the vessels is removed.

Medial traction on the clamp exposes the lateral side of the lobe where the middle thyroid vessels are ligated and divided. Structures posterior to the lobe can then be pushed back out of danger, and the recurrent laryngeal nerve can be injured only near the inferior thyroid vessels and at the cricotracheal sulcus. A small amount of gland should be left at the sulcus to avoid such damage, but nerve dissection is not always necessary.

Traction on clamps at the superior and inferior poles will completely deliver the lobe and expose the posterior capsule. The parathyroid glands can be seen and avoided, and the amount of thyroid tissue to be left is easily determined.

To avoid an abnormally placed nerve near the bifurcation of the inferior pole vessels, the transection clamp should be placed on glandular tissue well above the bifurcation. The posterior branch of the inferior thyroid artery is preserved to maintain blood supply to the parathyroids.

The right lobe is then amputated from the outside in, and the isthmus is separated from the trachea. A similar dissection is done on the left lobe, allowing removal of both lobes and the isthmus together.

The entire area is well irrigated with saline to discern all bleeding points. Complete hemostasis allows the wound to be closed without drainage (see illustration).

¶ PEPTIC ULCERATION may appear after trauma or surgery. The complication has a high mortality rate. Especially in early convalescence after injury or operation, P. A. Lane Roberts, M. Ch., of Guy's Hospital, London, finds that postprandial epigastric pain suggests the possibility of recrudescence or first occurrence of ulcer. The appearance of melena and coffee-ground vomitus should prompt preparations for blood transfusion.

Brit. M. J. 4874:1295-1298, 1954.

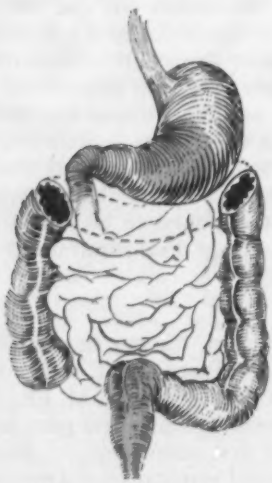
Etiology and Diagnosis of Melena

JAMES D. RIVES, M.D., AND ROBERT O. EMMETT, M.D.
Louisiana State University and Charity Hospital of Louisiana, New Orleans

*The cause of massive bloody stools is ordinarily a benign lesion, the diagnosis of which can be established in nearly half the cases, usually from the history and a physical examination.**

THE problem of melena is essentially one of diagnosis. Definitive treatment is ordinarily not difficult if the type and location of the bleeding lesion are known.

In the majority of emergency hospitalizations for melena the patients are over 40 years of age, and half are over 60. Nearly half are in some phase of shock, but the number of tarry stools passed does not give a good estimate of the amount of blood lost.



Common bleeding sites

The source of bleeding can be found in only about half the cases. A third of the proved sites are duodenal ulcers, and another third are benign or malignant rectal lesions. In a quarter of patients, the bleeding site is equivocal but is usually thought to be in the gastroduodenal and rectosigmoid areas. Colonic diverticula are very likely the source of hemorrhage in a third of the equivocal cases, but many patients have other possible bleeding lesions, such as severe hemorrhoids or rectosigmoid polyps.

Jejunal or ileal lesions, cancer of the intestinal tract, and intestinal polyps are quite uncommon causes of extensive bleeding, though not, of course, of lesser amounts of bleeding. Nearly 85% of the conditions definitely producing massive hemorrhage are benign, and a third of the cancers that cause such bleeding arise outside the gastrointestinal tract or consist of malignant blood dyscrasias.

Autopsy studies seem to indicate that many of the remaining unexplained hemorrhages may arise from quickly healing, acute gastric ulcers

*Melena. Am. Surgeon 20:458-470, 1954.

not demonstrated by roentgenograms. Melena may also occur as a terminal event, usually associated with severe jaundice, advanced carcinoma, blood dyscrasias, or uremia and be noted only post mortem; the prognosis is hopeless in such cases even before the onset of bleeding.

Roentgenograms, laboratory studies, proctoscopic examination, and surgery are of distinct assistance in confirming the clinical impression but do not commonly reveal a site of hemorrhage that has seemed unlikely from the symptoms and the signs.

Surgery is a very unsatisfactory method of discovering the cause for melena.

A study of 206 patients with melena among over 5,000 admitted during a three-year period to a large city hospital because of acute abdominal disease indicates that the routine for diagnosis and management should include:

1] Immediate estimation and correction of blood loss and shock

2] Rectal estimation to verify the presence of blood and to detect any rectal lesion; insertion of a nasogastric tube to search for possible upper gastrointestinal bleeding

3] History and physical examination

4] Laboratory investigation, including complete peripheral blood studies, bleeding and clotting time, capillary fragility test, and blood chemical elements

5] Upper gastrointestinal barium studies, if considered necessary, even if bleeding is active

6] Sigmoidoscopic examination when signs indicate lower bowel bleeding

7] Barium enema, when needed, unless peritoneal reaction suggests diverticulitis

8] Surgery as a diagnostic and therapeutic procedure only if hemorrhage does not cease and blood loss continues to exceed amounts that can be safely replaced.

Later studies usually fail to reveal a definite cause when the previous site of bleeding has been equivocal or not found, but only a few persons have repeated episodes of melena.

¶ DIAGNOSIS OF ACUTE APPENDICITIS cannot be established by the white cell and differential determinations or the percentage of juvenile leukocytes. Among 166 persons who had subsequent appendectomies, Jack A. Cannon, M.D., of the University of California, Los Angeles, and Herschel S. Kopp, M.D., of Los Angeles County Harbor General Hospital, Torrance, found that the leukocytosis was less than 13,000 in 29%. Neutrophils did not exceed 75% of the total cell count in 28% of the subjects, and young cells were not more than 5% in 42% of the patients. The pathologic classifications were gangrenous, acute suppurative, and simple acute appendicitis and lymphoid hyperplasia. In 17 cases the appendix was found to be normal.

West. J. Surg. 62:312-315, 1954.

Value of Iron Therapy in Pregnancy

ROY G. HOLLY, M.D.
University of Minnesota, Minneapolis

*About 3 of 4 pregnant women have some degree of iron-deficiency anemia, which can usually be alleviated by oral iron therapy.**

DEPLETION of iron stores may not be evident in ordinary tests of pregnant women but is clearly shown by levels of serum iron and erythrocyte protoporphyrin.

Iron salts taken orally for the last trimester usually maintain or improve the initial hemoglobin value. Severe resistant deficit may be overcome by iron combined with cobalt. Intravenous therapy is also practical, and action is relatively fast.

The so-called physiologic anemia of pregnancy, though supposedly due to the normal increase of plasma volume, rarely occurs if iron stores are adequate. The classic signs of iron shortage are seldom demonstrable, however. Even with the hemoglobin level under 10 gm. per 100 cc., fewer than 25% of the affected group have reduced mean corpuscular diameter, low cell indexes, or clearly diagnostic blood smears.

Serum iron, or transport iron, is more significant. Though range of normal values is wide, less than 60 γ per 100 cc. is not often found unless iron is depleted.

Erythrocyte protoporphyrin is the free or unbound type in the red cell. The amount increases if iron is inadequate to form heme, the iron-protoporphyrin complex in hemoglobin. Values above 60 γ per 100 cc. indicate iron deficiency, except with such diseases as hemolytic anemia or chronic infection.

As shown by tests of 102 otherwise healthy subjects, hemoglobin and hematocrit levels tend to fall gradually during gestation to low normal readings in the last trimester. Mean serum iron also drops and is significantly decreased late in pregnancy. Mean protoporphyrin rises in the last month. All readings are consistent, that is, the greater the fall in hemoglobin and hematocrit, the more important are changes in serum iron and protoporphyrin.

When no iron supplement is provided, only 22% of women have adequate hemoglobin throughout pregnancy, while 24% have values under 10 gm. and the remainder between 10 and 12 gm.

If supplementary iron is given for at least ninety days before delivery, roughly 80% of expectant mothers keep or increase the hemoglobin value recorded before therapy, while none have pronounced decrease.

Results are essentially the same

*The value of iron therapy in pregnancy. Journal Lancet 74:211-214, 244, 1954.

with various iron salts. For example, ferrous sulfate or gluconate may be administered in divided doses of 0.5 to 1 gm. daily, or 5 gr. of Mol-Iron may be given 3 times a day.

Roncovite, a bone marrow stimulant employed for aplastic anemia, succeeded in 41 of 42 cases. From 45 to 90 mg. of cobalt chloride is furnished with each gram of iron.

Although almost all women with typical iron deficiency anemia and hemoglobin levels under 10 gm. improve during oral therapy, restoration to normal is very slow. Only 0.06 gm. of hemoglobin per 100 cc. is added daily by 0.5 to 1 gm. of ferrous iron. Assuming a maximum daily absorption of 5 mg., oral treatment should be continued for at least two hundred days after hemoglobin becomes normal.

Intravenous therapy may be employed for iron deficiency when oral dosage is impossible to use or poorly tolerated or when prompt effect is required. The total daily dose should never exceed 3 gm. until safety of larger amounts is established. Hemoglobin is increased 0.11 gm. per 100 cc. daily, nearly twice the rate for oral medication.

Recurrent Ectopic Pregnancy

DANIEL G. COOK, M.D., AND JOHN A. BUTT, M.D., CLEVELAND CITY HOSPITAL, note that about 15% of patients operated upon for ectopic tubal pregnancy subsequently require contralateral operation. The patient with an occluded residual tube rarely conceives; if the residual tube is patent but damaged, a common occurrence, a second ectopic pregnancy is likely.

Hysterosalpingographic examination after surgery for ectopic pregnancy gives good evidence as to which patients are likely to have recurrences and as to prognosis. The residual tube is studied for abnormalities in length, position, tortuosity, and patency. Displacement by extrinsic masses is demonstrated and hydrosalpinx readily diagnosed.

Postectopic tubal damage is caused by the original ectopic pregnancy, resultant surgery, or pelvic inflammation. Intraperitoneal blood, with subsequent clotting, organization, and formation of peritubal adhesions, may favor repeated tubal pregnancy. Hence, the prompt evacuation of blood in cases of acute ruptured tubal pregnancy decreases chances of injury to the remaining tube.

The advisability of leaving a damaged residual tube when operating for ectopic pregnancy is questionable, since sterility is better than the risk of another tubal pregnancy.

Hysterosalpingography studies following ectopic pregnancy. Am. J. Obst. & Gynec. 66:626-636, 1953.

Oxygenation in Obstetrics

JOHN C. DUNLAP, M.D., AND WILLIAM W. BROWN, M.D.
Providence and Hillcrest hospitals and Central Texas Clinic, Waco

*Administration of 100% oxygen to the parturient is an additional safeguard to the fetus during birth but is not a substitute for careful antenatal supervision and vigilance during labor.**

FAILURE of fetal respiration is accountable for most perinatal mortality, although this is the function over which the obstetrician can exercise the greatest control.

The reservoir of oxygen available to the fetus is not always adequate to meet the great emergencies and every fetus presents a potential unanticipated risk.

To improve oxygen tension in the fetus during transfer from placental to pulmonary respiration, 100% oxygen always should be given to the mother as a protective measure.

The procedure should not be regarded as a last resort to counteract fetal distress that may indicate exhaustion of the natural safeguards and perhaps irreversible respiratory failure.

The 100% oxygen is administered through a BLB mask for twenty to thirty minutes before and during delivery. Pudendal block and local infiltration of anesthesia are desirable, because oxygen can be used simultaneously as required;.1% procaine is employed with 150 TR units of Wydase and 0.12 cc. of epinephrine hydrochloride, 1:1,000, added to each 30 cc. of the anesthetic solution. During actual delivery, the regional anesthesia may, if necessary, be augmented by slow intravenous administration of 50 to 100 mg. of Demerol.

Oxygen may fail to reverse fetal distress from injudicious sedation, and intravenous administration of *n*-allylnormorphine to the mother may be equally disappointing. Substitution of regional block anesthesia for systemic depressives should increase fetal salvage.

Oxygenation is especially important during birth of a premature child since prematurity is responsible for a tremendous number of perinatal deaths. Sedation of the mother must be avoided during such deliveries.

Immediate clamping of the umbilical cord is to be condemned, because frequently one-fourth of the total blood volume of the newborn is received through the umbilical cord after birth. The mortality for premature infants whose umbilical cords are clamped immediately at birth is twice as high as for those infants whose cords are tied later.

*Oxygenation in obstetrics during anesthesia with pudendal block aided by hyaluronidase. Obst. & Gynec. 3:498-503, 1954.

Placental Bleeding at Cesarean Section

G. A. NELIGAN, B.M., AND J. K. RUSSELL, M.B.
University of Durham, England

*Low cervical section for placenta praevia always carries the hazard of damage to the fetal circulation, with blood loss of sufficient severity to necessitate transfusion.**

THE placenta is often encountered in the uterine incision during lower segment cesarean section for placenta praevia. Cutting through the placenta will result in fetal blood loss.

In 45 recent consecutive cases, placental tissue was underlying the uterine incision sufficiently to involve risk of damage on 20 occasions, an incidence of 44%.

An operative technic has been designed to avoid damaging the placenta and to decrease blood loss, without increasing the risk of fetal anoxia, if the placenta is cut. A transverse incision no longer than 1 in. is made in the lower uterine segment. If the placenta is encountered, the scalpel is immediately withdrawn and the incision extended on either side by means of fingers or blunt-pointed scissors. Entering the correct cleavage plane may be difficult, but the surgeon can avoid gross disruption of the placenta.

The placenta is separated from the attachment by passing a hand

Fig. 1. Placenta separated by hand

Fig. 2. Face delivered and cord clamped

*Blood loss from the foetal circulation: a hazard of lower segment caesarean section in cases of placenta praevia. J. Obst. & Gynaec. Brit. Emp. 61:206-212, 1954.

upward between the uterus and placenta as far as the sac of membranes (Fig. 1). The membranes are ruptured, and the child's face is delivered into the wound as soon as possible. The cord must then be clamped promptly (Fig. 2).

Management of the baby requires rapid assessment of the blood loss. Clinical evaluation alone is inadequate. The placenta should be closely examined, particularly from the fetal surface, for damage to the larger tributaries of the umbilical vein. If more than half a minute has elapsed between encountering the placenta and clamping the cord or if damage to the placental vessels is visible, serious blood loss is likely.

Serial estimation of the baby's skin-prick hemoglobin level is a useful guide to the urgency of the situation. If the level falls below 14.8 gm. per 100 cc. within the first twenty-four hours of life, the baby has probably lost blood and requires close watching. If the hemoglobin falls below 13.3 gm., a blood transfusion is necessary. If the fall occurs within the first three hours of life, transfusion is urgently required.

The transfusion, 10 cc. of blood per pound of body weight, is given rapidly by polythene catheter through the umbilical vein. A slow drip is continued until the child's general condition is good or not improving with continued transfusion. Very ill babies are best given transfusions in Isolette incubators so that oxygenation and temperature can be well maintained.

Primary Cancer of the Vagina

JAMES P. PALMER, M.D., AND SHELDON M. BIBACK, M.D., UNIVERSITY OF BUFFALO, N.Y., believe that the best therapy for primary vaginal cancer is local irradiation, by either surface applicator or interstitial needles of radium. Subsequent roentgen-ray therapy may be used. Difficulties of treatment are not due to inaccessibility or radioresistance of the lesion but to the radiosensitivity of the bladder and rectal mucosa. Technic and dosage must be planned for each individual because of the extreme variations in position and type of the cancer.

Vaginal cancer represents about 1.3% of all gynecologic cancer, with a ratio of 1 vaginal to 55 cervical cancers. Occurrence of the disease before the age of 20 is exceedingly rare. The condition must be differentiated from the much more common secondary cancer of the vagina.

In most respects, the manifestations of carcinoma of the vagina resemble those of malignant growth in the cervix. The early lesion is asymptomatic. Painless bleeding is the most frequent symptom and is often the first indication.

Primary cancer of the vagina. Am. J. Obst. & Gynec. 67:377-396, 1954.

Cardiovascular Problems in Pregnancy

BURTON E. HAMILTON, M.D.
Boston Lying-in Hospital

*Proper prenatal care exerts a profound effect on the immediate maternal and infant mortality rates of women with heart disease, acquired or congenital.**

PHYSICIANS who attend pregnant cardiac patients must be prepared to give advice on: [1] the maternal and infant mortality rate, [2] the risk of immediate invalidism, and [3] the effect of the maternal disease upon the infant. A simple and fairly accurate way to appraise cardiac cases is to compare the risk of one year of pregnancy and puerperium with the risk of living for one year not pregnant.

Rheumatic heart disease—Statistics indicate that the maternal mortality rate for pregnancy and puerperium of rheumatic cardiac patients of functional classes I and II is only slightly higher than the rate for one year of living not pregnant. For the minority who are severely handicapped and in class III or IV and have had signs of congestive heart failure under usual living conditions or during earlier pregnancies, the risk of death is several times as great. For those who have auricular fibrillation, the risk of pregnancy becomes still higher if the patient is 35 years of age or older.

Parity is not a determining factor in maternal mortality with rheumatic heart disease.

Treatment sharply influences the over-all maternal mortality rate with rheumatic heart disease. However, a low maternal mortality is to be expected only when proper care is started early in the prenatal course and for patients in functional classes I and II. Those in III and IV still have mortality rates as high as 16 to 18%, despite good care. For severely handicapped patients, the unavoidable load of pregnancy leads to high maternal death rate even with the best therapeutic management.

In the favorable groups, I and II, infant mortality is nearly the same as for the whole population but rises to at least 30% for mothers in class III or IV.

The question of interruption of pregnancy because of rheumatic fever still is a difficult one, but the trend is toward noninterruption.

Corrective cardiac surgery during pregnancy should not be necessary, except in rare instances, if cardiac patients receive timely education. Nonpregnant patients with mitral stenosis of high degree, normal rhythm, and nearly normal heart size, but with attacks of acute pulmonary edema and severe dyspnea and rapid heart rate, sometimes

*Cardiovascular problems in pregnancy. Circulation 9:922-933, 1954.

with chest pain and hemoptysis, are believed to benefit greatly from prompt surgical treatment.

Pregnancy is especially likely to provoke such symptoms. Since interruption of pregnancy may be expected to abolish the symptoms for a long time if the condition is controlled, and since operation on the valve, without the complicating load of pregnancy and after ample convalescence, should make later pregnancies safer, interruption first and surgery later seem the best method.

Congenital cardiovascular anomalies—The woman with a developmental cardiovascular defect faces the chance, though slight, of a specific defect in the infant that the mother with acquired heart disease does not face.

The maternal mortality rate with patent ductus arteriosus probably approximates that with rheumatic heart disease, between 3 and 4%. The blood pressures of such patients rise materially some days before, remain elevated until term delivery, and after delivery drop suddenly. Possibly a right-to-left shunt develops in those who die suddenly immediately after delivery. Surgical correction of this defect has been accomplished during pregnancy.

Patients with interseptal defects and pulmonary stenosis can tolerate pregnancy but not without definite risk. Sudden, severe symptoms directly after emptying the uterus are attributed to right-to-left shunt.

Coarctation of the aorta does not alarmingly increase the death rate. Women with such lesions tend to have lowered pressures during pregnancy but the pressures may rise sharply late in pregnancy, with lowered effort capacity, spells of breathlessness, and encephalopathy.

Bacterial endocarditis—Therapy of bacterial endocarditis with pregnancy seems to be somewhat less successful than under usual conditions. Subacute bacterial endocarditis is more likely to be noted a few months after pregnancy than during pregnancy. If the disease has subsided before the patient becomes pregnant, prophylactic therapy is probably advisable.

Essential hypertension—Patients with essential hypertension appear to have maternal death rates lower than those with rheumatic heart disease. The rate is low when the lesion is slight but much higher if the disease is severe, as with rheumatic heart disease. The maternal mortality is high for women who have enlarged hearts, or who have had congestive failure, paroxysmal dyspnea, or nephritis, or who are in the older age group. Statistically, pregnancy shortens life expectancy of patients with essential hypertension.

Infant mortality is heavy, particularly if maternal disease is severe. Timely interference with the pregnancy is a particularly important factor for infant survival.

The treatment for essential hypertension during pregnancy is like that for hypertension in general. Patients need continued observation and protection against fatigue, needless weight gain, malnutrition, complicating diseases, and all stresses known to affect hypertension.

Therapy of Urinary Infection in Women

HOUSTON S. EVERETT, M.D., AND JOHN HERMAN LONG, M.D.
Johns Hopkins University, Baltimore

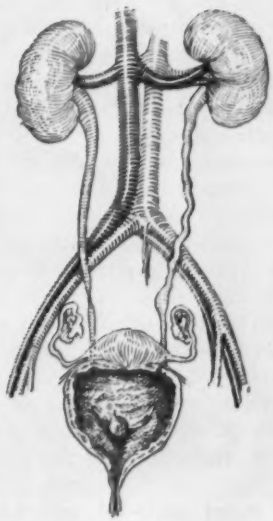
*Sulfonamides are usually the most effective agents for initial treatment of all types of urinary infection encountered in gynecologic practice.**

TREATMENT for urinary infection should be started at once, preferably with a sulfonamide. At the same time, cultures are begun, and sensitivity of the invading organism to different antibiotics is determined. If initial treatment fails, a more appropriate drug can be substituted.

The commonest form of urinary infection is acute cystitis. Single attacks or several bouts at long intervals probably do not indicate organic disease. However, frequent recurrent acute or chronic cystitis requires a complete urologic investigation.

Persistent infection in women may be due to unsuspected urethral lesions, such as polyp. For examination, the McCarthy panendoscope should be used more frequently. If urinary obstruction is a factor, simple removal of blockade may be effective. For instance, ureteral or urethral stricture may be dilated without medication.

Management of chronic cystitis is often disappointing, and the same is true of calculous disease. Infection often persists whether small stones are obtained by somewhat traumatic methods or allowed to remain. However, results may be excellent when a stone-bearing kidney containing the only infective focus is excised.



Several drugs were evaluated in 236 cases of 7 categories: acute single or multiple attacks of cystitis, chronic cystitis, pyelonephritis, and infection with obstruction, stone, or urethral lesions. Some patients had associated gynecologic disease such as cancer, cervicitis, or cystocele or had recently had myomectomy, vaginal repair, hysterectomy, or other surgery.

Sulfonamides have several ad-

*The treatment of urinary infections. Am. J. Obst. & Gynec. 67:916-930, 1954.

vantages over antibiotics in therapy for urologic infection. A greater variety of organisms can be restrained by the sulfonamide compounds, and fewer adverse reactions result.

Every type of antibiotic is powerless against some urinary invaders. For example, penicillin is no better than sterile water for the coli-aerogenes group, which is responsible for perhaps 80% of urologic infections.

Moreover, sulfonamides are relatively inexpensive. The particular kind chosen for each case depends on the physician's preference and special qualities needed.

Sulfadiazine is given for acute uncomplicated infections in small doses of 2 gm. daily for five to seven days. Crystalluria is unlikely, but fluids should be forced and urine kept alkaline. For severe infections, the amount is doubled.

Terfonyl, a triple product, contains equal parts of sulfadiazine, sulfamerazine, and Sulfamethazine in 0.5-gm. tablets. Therapeutic potency of the mixture is undiminished, but the risk of crystalluria is reduced to one-third. Dosage is essentially the same as for sulfadiazine.

Gantrisin is highly soluble and avoids the danger of crystals. However, at least 4 gm. is required daily for simple infection and 6 to 8 gm. with complications. These rather large doses may cause gastrointestinal upsets.

Sulfathalidine acts chiefly on *Escherichia coli* and is especially helpful with repeated or chronic infection. Dosage of 4 gm. daily is well tolerated and may be prescribed for a week of each month to halt recurrence.

Antibiotics are reserved for serious and complicated conditions, as well as cases with resistance or sensitivity to the sulfonamide compounds. The most potent type for specific organisms is determined by the disk technic of Bondi and associates, or impregnated disks may be obtained from commercial sources.

Chloromycetin should be used only for severe infections, avoiding a second course if possible. Oral doses of 500 mg. are given four times daily. Hospital care is required, and blood is examined often.

Aureomycin or *Terramycin* dosage is 250 mg. four times daily. *Streptomyin* is injected intramuscularly, 500 mg. four times a day. *Procaine penicillin G* is injected twice daily in amounts of 300,000 units; if an oral preparation is desired, 200,000 units may be given three times daily.

¶ PREGNANCY AND HEART DISEASE coexistent in the same woman pose no special therapeutic problem. Since no cardiac ailment is peculiarly associated with the physiologic process of childbearing, John F. Briggs, M.D., of the University of Minnesota, Minneapolis, observes that symptoms referable to either state should be treated without consideration of the existence of the other.

Dis. of Chest 25:150-153, 1954.

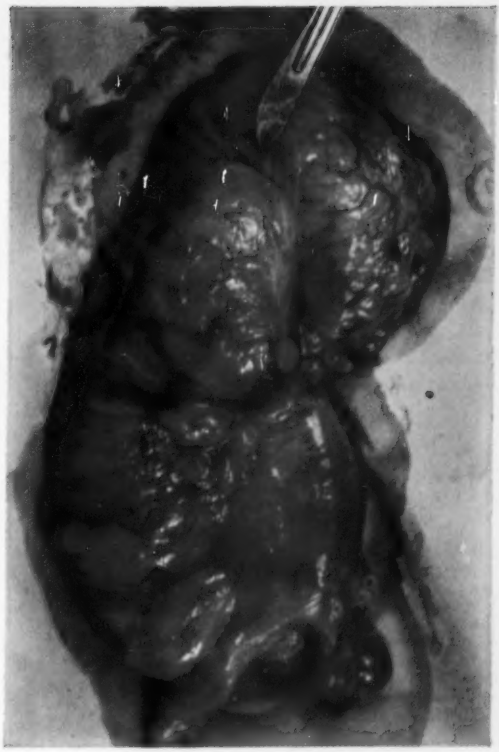


Fig. 1. Unopened gross specimen, obstructive endometrioma of the rectosigmoid

CLINICOLOR SECTION

Endometrioma of the Sigmoid

HENRY E. STEADMAN, M.D.
Hapeville, Ga.

CASE REPORT

ENDOMETRIOMA of the sigmoid is a rather infrequent occurrence. When endometrial transplants do not occur elsewhere, such a lesion is most rare. The following case is particularly unusual because it includes a definite sigmoidal obstruction by a single endometrioma, without genital involvement.

A 36-year-old white woman came to the office, August 30, 1948 with the chief complaints of weakness, nausea without vomiting bloating, constipation, and much flatus. Her menstrual history was normal. She was a nullipara though married five years and not using contraceptives.

Pelvic examination revealed the uterus to be rather small and the fundus and cervix freely movable. The ovaries and tubes felt normal. Cystic cervicitis was detected by inspection. The cysts were cauterized. Rectal examination was normal. Blood examination showed the hemoglobin at 70% and a red blood cell count of 4,300,000.

At her second office visit, December 20, 1948, the patient complained of chronic constipation. She had never noted any blood in the stools.

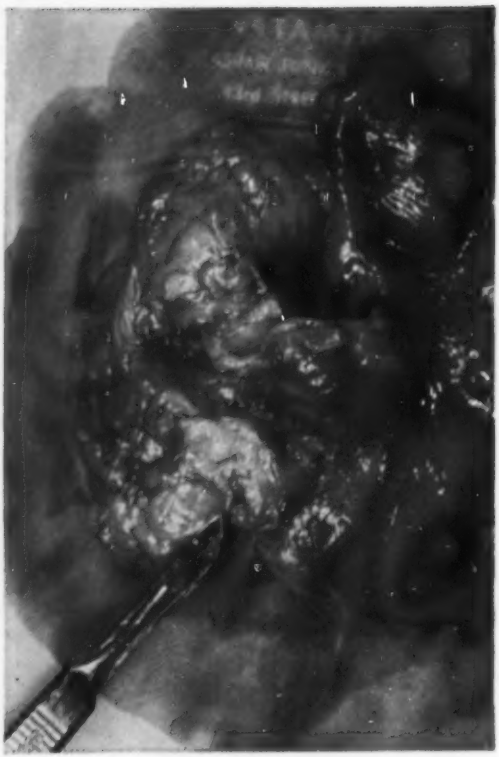


Fig. 2. Opened gross specimen, obstructive endometrioma of the rectosigmoid

A hysterosalpingogram, made January 17, 1949, appeared normal. On May 30, 1949, the patient complained of distention and generalized abdominal pain. An antispasmodic was prescribed.

The patient entered Georgia Baptist Hospital, August 20, 1949, because of signs of lower bowel obstruction. The proctosigmoidoscopic examination was unsatisfactory because the instrument could be passed only 10 cm. before being stopped by an extrinsic mass in the pelvis. The bowel was fixed by the mass.

A barium enema, August 23, 1949, revealed almost complete retrograde obstruction in the rectosigmoid, with associated irregularity, suggesting proximal ulceration. This finding was not particularly indicative of malignancy although such a condition could not be ruled out. An inflammatory process, possibly secondary to diverticulosis, was considered the most likely cause.

The patient was dismissed from the hospital at her request on August 24 to make plans for readmission for final diagnosis and treatment. She was readmitted September 18. The obstruction was complete.

At laparotomy, September 20, 1949, the uterus, tubes, and ovaries were normal. A rather hard annular lesion, approximately 8 by 8 by 12 cm., involved the entire circumference of the rectosigmoid junction. Marked fixation was found, but no involvement of the lymph glands. Three experienced surgeons concluded that the tumor was a scirrhous annular carcinoma with complete obstruction. Because of the marked distention of the entire colon and the lack of adequate preparation as a result of the obstruction, a cecostomy was performed.

The postoperative course was uneventful, and the patient was dismissed September 28. She was readmitted October 23 after adequate preparation including sterilization of the bowel. The tumor of the sigmoid was removed and an end-to-end anastomosis was performed.

The pathologist reported: "Endometriosis in the muscle coat of the sigmoid. It is not malignant."

The reports on gross specimen and microscopic findings were as follows:

The specimen is somewhat membranous, measuring 8 by 8 by 12 cm. Part of the external surface is corrugated, grayish brown, dull, and granu-

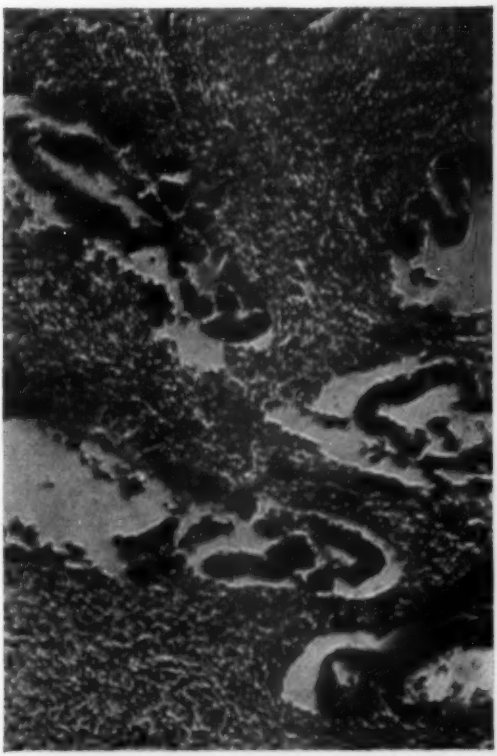


Fig. 3. Photomicrogram, magnification 10 by 10, showing endometrium in the muscular coat of the intestine

lar. Part is ragged, glistening, and reddish yellow, attached to which is a good deal of fat. The wall varies in consistence. At one place there is a circular area 2.5 cm. in diameter. This area is rather firm, cuts with resistance, and the incised surface is lobulated with yellowish pink.

Throughout the muscle coat there are fairly large islands which have very loosely woven stroma but which contain many small round and oat-shaped cells and quite a number of tubules. The tubules are relined with a simple layer of columnar epithelium, the cytoplasm of which is fairly abundant, with the nucleus placed at the base of the cell. The cells are symmetrically arranged, are coherent, and have not lost their polarity. They are well differentiated and are not active. At places one sees somewhat discrete tubules which are lined with columnar epithelium. At other places one sees similar islands, but among the oat-shaped cells there are quite a number of fairly large spaces. These spaces are lined with cuboidal epithelium.

Diagnosis: Endometriosis in the muscle coat of the sigmoid.

Recovery was uneventful. The patient was discharged November 5, 1949. The cecostomy tube came out ten days later, and the fistula closed spontaneously in twenty-one days.

A postoperative colon enema roentgenogram, made April 28, 1950, was normal. Today the patient is cured and is free from symptoms.

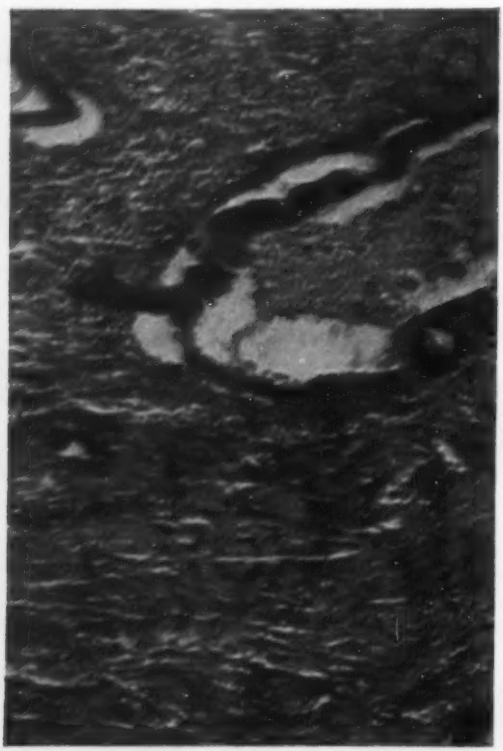


Fig. 4. Photomicrogram, magnification 10 by 43, showing endometrium in the muscular coat of the intestine

Maternal Rubella and Fetal Anomalies

SAUL KRUGMAN, M.D., AND ROBERT WARD, M.D.
New York University, New York City

*When a pregnant woman is exposed to rubella, the value of gamma globulin or the desirability of therapeutic abortion must be individually assessed.**

THE risk of congenital malformations and stillbirth resulting from maternal infection with German measles during the first trimester of pregnancy has been variously estimated as from 10 to 90%. In general, retrospective observations give far higher values than do prospective studies. Infection during the second or third trimesters apparently entails no fetal hazard.

The need for accurate diagnosis is apparent, since an erroneous diagnosis can cause unnecessary anxiety and complications. A child with rubella may easily expose a neighbor or visitor who is in the first trimester.

Recognition of rubella without an epidemic may be difficult because of the lack of a pathognomonic sign and of a specific diagnostic test and the similarity to other diseases. Enlarged lymph nodes are not specific for rubella.

Most children with the disease have no fever or only a slight elevation of temperature, a three-day rash, and posterior auricular and occipital adenopathy. Patients occasionally have high fevers and some do not have lymphadenopathy.

The disease is usually more severe for adults, and malaise, anorexia, and enlarged tender nodes may appear two days before the rash. In children, the rash may be the first obvious sign of disease, the adenopathy being asymptomatic.

The differential diagnosis includes several infectious diseases and skin eruptions. Measles, exanthem subitum, scarlet fever, and infectious mononucleosis are the most common misdiagnoses. The rash of measles is preceded by three to four days of high fever, respiratory symptoms, and the pathognomonic Koplik spots. Exanthem subitum has three or four days of high fever, the rash appearing as the temperature falls to normal. Scarlet fever is differentiated by the typical erythematous punctiform eruption associated with an acute exudative tonsillitis or pharyngitis.

Experimental rubella, produced by inoculating susceptible subjects with material containing the active virus, has variable manifestations, the temperature usually being only a little elevated and not related to the severity of eruption. A maculopapular eruption appears first on the face and neck, then spreads to the trunk and finally to the extremities. The slight eruptions disappear

*The rubella problem. J. Pediat. 44:489-498, 1954.

in one to two days, the more extensive subsiding after three to five days. The most commonly involved lymph nodes are the posterior auricular, occipital, and cervical groups. The axillary, inguinal, and epitrochlear nodes are occasionally involved. The white blood count varies from normal to a moderate leukopenia.

The value of gamma globulin in preventing rubella is still debatable. Apparently, neither the convalescent nor ordinary gamma globulin is consistently effective for prevention of the condition. Moreover, gamma globulin may give a false sense of security by so modifying the disease that no rash appears; the maternal infection will then not be apparent, yet the fetus may be affected.

The patient's age, parity, religion, and other factors must be considered when determining the management of a woman exposed to German measles in the first three months of pregnancy. The following hypothetic examples show some of the individual problems involved in therapy.

1] When the exposed gravida is a recently married, healthy young woman, management probably will depend on whether the couple would consent to therapeutic abortion should rubella develop. [a] If the prospective parents will not oppose abortion, gamma globulin should be withheld to avoid possibility of masking the disease. Then, if rubella does not occur, the pregnancy is allowed to continue; if rubella does appear, abortion is done. [b] If the parents will not want an abortion under any circumstances, gamma globulin is given. Whether rubella develops or not, the pregnancy is allowed to go to term.

2] An older couple, childless for many years, probably will want to risk the fetal consequences of rubella infection. Consequently, gamma globulin is given and abortion is not considered.

The most effective method for attacking the rubella problem is deliberate exposure of girls to the disease before the childbearing age. Rigid control is necessary to avoid exposing gravidas. One attack seems to give lifelong immunity.

¶ DIARRHEA IN INFANTS AND CHILDREN is best treated with a combination of aureomycin and triple sulfonamides. The preparation (Aureomagma) was most effective in illness caused by *Shigella paradysenteriae*, but Albert M. Hand, M.D., W. T. McLean, Jr., M.D., and James N. Etteldorf, M.D., of the University of Tennessee, Memphis, find that the combination is also valuable for combating dysenteries of undetermined causation and for preventing or controlling secondary infection. Aureomagma is a suspension, 4 cc. of which contains 125 mg. of aureomycin, 167 mg. each of sulfadiazine, sulfamerazine, and sulfamethazine, 0.08% of Methyl Paraben, and 0.02% of Propyl Paraben. The preparation is diluted 1:10 and given at six-hour intervals in amounts calculated to supply 12.5 mg. of the antimicrobial and 50 mg. of the triple sulfa components per kilogram of body weight in twenty-four hours.

J. Pediat. 44:407-413, 1954.

Status of Idiopathic Epilepsy

M. G. PETERMAN, M.D.
Milwaukee County General Hospital

*Although the ketogenic diet and various drugs exert some influence on seizures with idiopathic epilepsy, complete control of symptoms or cure is not yet possible.**

LIKE cancer, diabetes, hemophilia, and muscular dystrophy, tendency to idiopathic epilepsy is transmitted through heredity, and, in advanced stages, the disease is incurable. Even though epilepsy may be controlled medically, the tendency is still transmitted to progeny.

Expression of the tendency may be not only as the classical epileptic seizure but also as febrile or anesthetic convulsions, eclampsia, and seizures caused by minor brain trauma.

DIAGNOSIS

The electroencephalogram is of great value when employed for [1] confirming the diagnosis of epilepsy and distinguishing the various types, [2] determining the carrier in parents and relatives and the potential in siblings, and [3] aiding evaluation of results of treatment.

A number of electroencephalograms may be necessary to obtain a satisfactory tracing, and interpretation must be guarded and sound. Tracings that correspond to the entities of grand or petit mal, psychomotor, and temporal lobe seizures have been established.

TREATMENT

Complete control of convulsions is the objective of therapy. A reduction of seizures which does not allow normal activity and freedom from supervision is of limited value.

The ketogenic diet is the most effective treatment for all forms of idiopathic epilepsy and for correction of the basic disorder. However, a preliminary fast of ten to fourteen days and rigid supervision of food intake are required.

Phenobarbital is the most effective, reliable, and nontoxic medication for grand mal and major convulsions but has no effect on petit mal seizures and may aggravate behavior disorders in patients with psychomotor epilepsy or chronic encephalitis.

Other remedies for major convulsions include Gemonil, which also may modify akinetic and psychomotor seizures; hydantoins such as Dilantin, Nuvarone, and Mesantoin, which should not be given to children because of high toxicity; Themisone; and Mysoline, which may produce disturbing side reactions.

Phenurone helps control some psychomotor seizures. The diones, Tridione and Paradione, are the

*The present status of idiopathic epilepsy. J. Pediat. 44:624-629, 1954.

only drugs effective against petit mal seizures, and then in only about one-third of convulsions.

Phenurone should not be given with the hydantoins or diones. All these drugs are very toxic and should be used only under close supervision, with blood counts.

Aureomycin, ammonium chloride, caffeine, Hibicon, and glutamic acid have been tried with little success.

The drug chosen should be given in increasing doses to effectiveness every six or eight hours or in enteric-coated capsules every twelve hours. If the medication is not completely effective in one month, another should be substituted.

Once seizures are controlled, the dosage should be continued for at least one year and, if possible, until the electroencephalogram is normal. Dosage is then gradually reduced for another year or two. In no case should a drug be discontinued abruptly, even if another is to be substituted.

Bacterial Complications of Measles

SAMUEL KARELITZ, M.D., CHARLES C. CHANG, M.D., AND ZACHARY E. MATTHEWS, M.D., WILLARD PARKER HOSPITAL, NEW YORK CITY, find various forms of penicillin valuable for prophylaxis and treatment of the bacterial complications that often occur with measles. When such complications, chiefly pneumonia and otitis media, are eliminated, the febrile period is shortened. The rash or degree of photophobia is not affected, however.

Benzethacil, a long-acting form of penicillin, is capable of eliminating hemolytic streptococci from the nasopharynx for two to four weeks after a single injection. Children under 5 years of age are given 600,000 units; children over 5 receive 1,200,000 units. Discomfort at the site of injection is the most important disadvantage.

Injections of 300,000 units of procaine penicillin G on each of the first four days of the illness will also provide adequate protection against complications. An alternative plan is to inject 600,000 units on the first, third, and sixth days of the disease.

A study was made of over 200 children with measles. Associated diseases were found in 27.6% before therapy with penicillin and developed in a similar percentage of those not given treatment. All the infections disappeared after procaine penicillin was given and no new complications developed. Of 61 patients receiving Benzethacil, one had pneumonia and another a staphylococcic bacteremia subsequent to treatment. The three schedules of penicillin therapy are apparently approximately equal in effect, but Benzethacil is the most practical for out-patient use provided observation is adequate.

The prophylaxis and treatment of bacterial complications of measles with Benzethacil and aqueous procaine penicillin G. J. Pediat. 44:357-363, 1954.

Tobacco and Anesthesia

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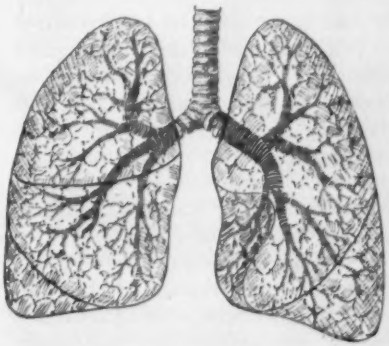
Adelphi, Unity, and Brooklyn Women's hospitals, Brooklyn

*Bronchitis caused by smoking is common and deserves serious consideration as a hazard of anesthesia and surgery.**



DELIBERATE preoperative consideration of the patient's smoking habits is justified by the frequency of smoker's bronchitis. Dramatic incidents attest the danger of the condition, which has caused respiratory obstruction and death in a strong patient when given anesthesia.

Laryngospasm, bronchospasm, and bronchorrhea during the surgical procedure as well as postoperative bronchitis, atelectasis, pneumonia, wound dehiscence, and incisional hernia or recurrence of hernia are among conditions attributed to bronchitis from smoking.

The most common cause of bronchitis is inhaled cigaret smoke when over 20 cigarets are consumed daily. The smoker of less than 20 cigarets a day rarely has tobacco bronchitis; the 1-package smoker usually and the 2-package smoker nearly always acquire the disease. Pipes and cigars can cause bronchitis only when inhaled, and cigaret smokers can avoid bronchitis by learning not to inhale. The incidence of postoperative pulmonary complications is generally observed to be greater among men than among women, but the discrepancy tends to disappear when differences in smoking habits are considered.

Preoperative evidence of tracheobronchial hyperirritability and hypersecretion can often be induced by requesting a patient to cough vigorously. The information from this test cough before operation may be of great importance to the anesthesiologist.

A normal cough is single, dry, and clear, not easily produced. An abnormal cough is a self-propagated paroxysm, either wet or dry. Wetness is a significant factor with respect to anesthesia.

An abnormal cough is rare unless the patient has tracheobronchial disease, the cause of which is usually detectable. Abnormal cough is almost always obtainable before

*Tobacco bronchitis: an anesthesiologic study. Ann. Int. Med. 40:729-742, 1954.

operation from patients who have postoperative respiratory complications and is usually not heard in patients without such complications. A few heavy cigaret smokers have normal test coughs but give evidence of bronchitis by morning expectoration or excessive amounts of mucus obtained by intubation.

Smoking alone does not cause bronchitis severe enough to be classed as wet bronchiectasis, but may do so when aided by some synergistic factor. Pulmonary emphysema seems to be unusually frequent among inveterate cigaret smokers with bronchitis.

Four weeks without smoking will cure any uncomplicated case of smoker's bronchitis as determined by the test cough, and two weeks will stop slight involvement. Even twenty-four hours without smoking brings significant improvement. But since cessation of smoking shortly before operation is usually difficult for the patient, best advice is to have the patient cough until clear just before starting anesthesia. Such a precaution reduces likelihood of complications.

The smoking habits and incidence of bronchitis among 4,322 surgical patients were studied statistically; 59.2% of the men and 26.3% of the women smoked. The prevalence of bronchitis from all causes was 47.1% in men, 20.5% in women, and 9.1% in children and adolescents, and was only between 6 and 10% in nonsmoking men under 39 years of age. Slightly over 67% of all smokers had bronchitis; of patients smoking a pack or more, 80% had bronchitis. The danger of smoker's bronchitis in surgery is shown by the fact that of 36 consecutive cases of spasm of larynx or bronchi during intravenous or cyclopropane anesthesia, 30 of the patients had bronchitis, usually from smoking.

Radium Treatment for Glioblastomas

ERNEST SACHS, M.D., YALE UNIVERSITY, NEW HAVEN, CONN., finds the best chances for prolonged survival with glioblastoma are afforded by surgical extirpation of the tumor followed by intensive radiation from gold radon seeds. The seeds, usually numbering about 40, are placed within 1 cm. of each other. Intense radiation is thus obtained in the tumor area, but without the undesirable effects on the rest of the brain or the skin caused by x-rays.

A review of 154 cases showed that only 14 patients lived more than a year. Survivals were longest for patients receiving greatest amounts of radiation, either from roentgen rays or radon seeds.

All patients with brain tumors should have exploratory craniotomies to establish definitive diagnoses and to determine whether surgery can be useful. The diagnosis of glioblastoma cannot be made simply from history, course, and angiographic examination.

The treatment of glioblastomas with radium. J. Neurosurg. 11:119-121, 1954.

Isotopes and Intracranial Lesions

HOWARD S. DUNBAR, M.D., AND BRONSON S. RAY, M.D.
New York Hospital–Cornell University, New York City

*Neoplasms of the cerebral hemispheres and subdural hematomas can be accurately and safely localized by use of radioactive iodinated human serum albumin.**

THE over-all accuracy in demonstrating the presence or absence of a neoplasm or other focal brain lesion by radioactive iodinated human serum albumin (RIHSA) is about 75%. Absence of a tumor or other focal lesion can be correctly diagnosed in 95% of cases.

Electroencephalography is slightly less accurate in the same cases, but pneumoencephalography and pneumoventriculography are 100% accurate.

Lugol's solution is first given for several days to reduce the amount of iodine taken up by the thyroid gland. Then 5 microcuries of RIHSA per kilogram of body weight is administered intravenously before any other diagnostic procedure is done. Ten to twenty-four hours later the patient's head is surveyed at 36 designated points with a shielded scintillation counter, a scaler, and recorder.

Localization is correct for about three-fourths of cerebral hemisphere neoplasms. The large, superficial, and vascular tumors, such as glioblastomas and meningiomas, are nearly always detected. Deep lesions, astrocytomas, and small metastatic tumors are less likely to be noted. The electroencephalogram correctly localizes only half of such lesions, but the pneumoventriculogram is 96% accurate.

RIHSA has limited value with posterior fossa neoplasms, probably because of the small size of the average tumor, which is overlain by heavy musculature, and because of difficulties in correct positioning of the counting tube.

Subdural hematomas of the cerebral hemispheres can be easily predicted as to side and extent, since the increase and area of increase of the counting rates are striking.

Value of the isotope method for diagnosis of other cerebrovascular lesions, such as thrombosis of major cerebral arteries, aneurysms of the anterior communicating artery, and arteriovenous malformations, is as yet undetermined and must await the examination of a greater number of patients.

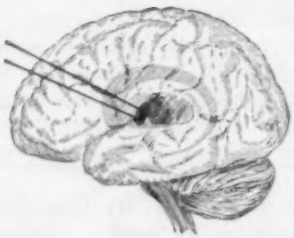
Chromophobe adenomas of the pituitary are difficult to localize with RIHSA because of the small size, distance from the counter, and large amount of overlying tissue. Count increases of tuberculomas are similar to those of neoplasms.

*Localization of brain tumors and other intracranial lesions with radioactive iodinated human serum albumin. Surg., Gynec. & Obst. 98:433-436, 1954.

Ansotomy in Paralysis Agitans

E. A. SPIEGEL, M.D., AND H. T. WYCIS, M.D.
Temple University, Philadelphia

*The tremors of paralysis agitans are notably reduced after pallidofugal impulses are interrupted by producing lesions of the ansa lenticularis.**



CUTTING the ansa lenticularis, ansotomy, for relief of paralysis agitans may be accurately performed by the technic of stereoencephalotomy, in which electrode needles are inserted into the lower basal ganglia region of the skull.

The anterior commissure is used as a reference point in preference to the pineal gland or posterior commissure, since more accurate localization near the ansa lenticularis can be achieved. By means of air studies of the anterior part of the third ventricle and the communication with the lateral ventricle through the foramen of Monro, the position of the anterior commissure just below the pallidum in the midsagittal plane is located.

A puncture is performed in a sagittal plane 15 mm. lateral to the midline, and another is placed 3 mm. behind, 17 mm. laterally in a sagittal plane. The electrodes are inserted through the frontal lobe in a ventrocaudal direction so that the needles form a 15 to 20° angle with the interaural plane. Lesions of the internal capsule are thus avoided. The first puncture reaches the base of the pallidum in a frontal plane through the transverse fibers of the anterior commissure, and the second puncture lies 3 mm. posteriorly.

Because the position of the ventral border of the pallidum varies in relation to the anterior commissure, the lesions are produced at 2 levels. Largest lesions are made by stilet anode electrodes, using 10 milliamperes for one minute for each lesion. Electric discharges of the ansa lenticularis and globus pallidus are measured with concentric needle electrodes.

The operation is performed after local anesthesia so that the effect of each electrolytic lesion upon the tremor and also the ability of the patient to perform voluntary movements may be observed. Undesirable side effects are thus avoided as much as possible.

An advantage of ansotomy over the paralyzing effects of operations on the cortex or spinal cord lies in

*Ansotomy in paralysis agitans. Arch. Neurol. & Psychiat. 71:598-614, 1954.

the retention of voluntary movements without the appearance of pyramidal tract signs, such as the Hoffmann or Babinski, or increased tendon reflexes. However, ansotomy does not increase muscle tone or impair sensation. The ability to perform alternate movements, such as flexor-extensor movements with the fingers, may be increased, and rigidity is sometimes diminished.

Electromyograms of the arm and electrograms of the pallidum made simultaneously show no correlation between muscle tremor and pallidum activity. The tremor rhythm is probably due to release from substantia nigra inhibition of the rhombencephalic and mesencephalic reticulate substance. The pallidofugal impulses conducted by the ansa lenticularis may further stimulate the tremor-genetic area in the tegmentum.

Parkinsonian tremor in the opposite extremity was reduced in all of 6 patients after ansotomy. The tremor reappeared in 2 of the patients, but enlargement of the ansa lenticularis lesions at subsequent operative procedures was again successful.

Laminectomy in Paget's Disease

F. R. LATIMER, M.D., J. E. WEBSTER, M.D., AND E. S. GURDJIAN, M.D., GRACE HOSPITAL, DETROIT, believe that myelographic examination should be done for all patients who have vertebral osteitis deformans with spinal cord compression, an occasional complication. Mechanisms other than direct compression may produce spinal cord involvement.

If an obstruction is noted in the subarachnoid space, the area should be decompressed by laminectomy.

The site of involvement is usually the upper dorsal area and the stigmas of Paget's disease may not appear. Impairment of sensation and hyperactive deep reflexes of the lower extremities are the rule. Paresthesias and numbness in the legs and pain starting in the vertebral column and extending to the limbs may occur. Protein and alkaline phosphatase of the spinal fluid are elevated. At operation, the laminae are found to be extremely thick but are easily removed by a rongeur. The bone is vascular and bleeds profusely. Dura mater appears normal and usually begins to pulsate freely after the constricting ring is removed.

Laminectomy will often temporarily relieve the spinal cord symptoms. However, results are unpredictable; symptoms may be partially or completely relieved and improvement may last as long as eleven years or for only a short time. Severity of the neurologic deficit is no indication of the ultimate benefit to be derived from surgery.

Osteitis deformans with spinal cord compression. J. Neurosurg. 10:583-589, 1953.

Hodgkin's Disease: Prognosis and Therapy

CHARLES M. NICE, M.D., AND K. WILHELM STENSTROM, PH.D.
University of Minnesota, Minneapolis

*Extent of the disease at the time treatment is instituted is the most accurate indication of the life expectancy of Hodgkin's disease.**

In about 75% of cases, Hodgkin's disease begins in the peripheral lymph nodes, and the superficial nodes are almost always eventually involved. The mediastinal and abdominal nodes, the lungs, and the spleen are the most frequent internal sites of invasion.

Enlargement of the lymph nodes may be the only symptom, or weakness, fever, anorexia, nausea and vomiting, weight loss, or pruritus may also occur. Localized pain is usually noted before roentgenologic evidence of bone lesions. Bone marrow studies sometimes reveal multiple granulomas.

Microscopic examination of enlarged lymph nodes may reveal an increase of the reticulum and lymphoid cells, multinucleated Sternberg-Reed cells, fibrotic or necrotic areas, and eosinophilia. Prognostication on the basis of granulomatous or sarcomatous types of lesions in the biopsy specimen is difficult.

Survival figures of persons with Hodgkin's disease correlate more closely with the clinical stage of disease than with the histopathologic condition or any other factor.

- *Stage 1*—A single group of lymph nodes or a single lesion elsewhere is involved, and the patient does not have constitutional symptoms.
- *Stage 2*—At least 2 proximal lymph node regions of either upper or lower trunk are affected, with or without constitutional symptoms.
- *Stage 3*—The disease has progressed to include multiple groups of nodes and may or may not cause symptoms, or the disease is acute but without obvious lymphatic involvement.

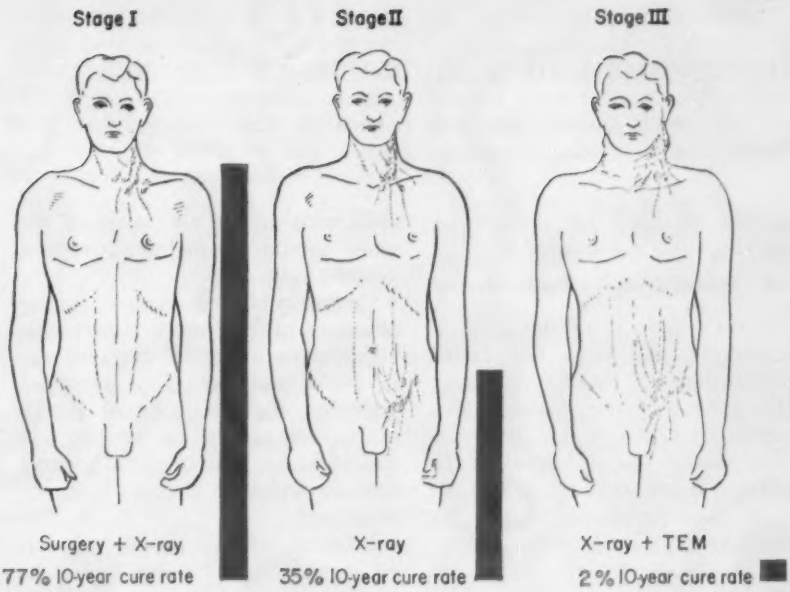
For treatment when the disease is in stage 1, intensive irradiation is used alone or immediately after surgical excision. Intensive irradiation is also the best procedure for stage 2 lesions.

At least 2,000 tissue roentgens are delivered to the tumor within fourteen days. However, the dosage is individualized; large masses may require heavier amounts.

If any node in a lymphatic chain is involved, the complete chain is included in the radiation field. To assure adequate dosage tolerance in diseased regions, prophylactic irradiation to possible future disease sites is not given.

Less intense therapy is administered to ameliorate symptoms of patients with stage 3 disease. Spray irradiation is occasionally used for widespread involvement. With mas-

*Irradiation therapy in Hodgkin's disease. Radiology 62:641-651, 1954.



sive mediastinal lymphadenopathy, small doses of 50 to 75 r in air are used initially to prevent edematous compression of the tracheobronchial tree.

Nitrogen mustard or triethylenemelamine (TEM) may be valuable adjuncts for patients with advanced disease. TEM can be given by mouth, causes less nausea and vomiting, and obviates the difficulties of venous thrombosis encountered with nitrogen mustard therapy.

If paresis develops from spinal cord compression, laminectomy and subsequent roentgen therapy should be used immediately.

A study of 208 patients with proved Hodgkin's disease shows a ten-year survival of 77% for patients with stage 1 disease, 35% with stage 2, and 2% with stage 3.

¶ CHOLANGIOGRAPHY is satisfactorily accomplished when 35% Diodrast in a 1% aqueous solution of methyl cellulose is used as the contrast medium. Fluoroscopic visualization is adequate, find George Jacobson, M.D., and Kenneth A. Heitmann, M.D., of the University of Southern California and Los Angeles County Hospital, Los Angeles, but the density is not great enough to obscure small radiolucent calculi in a large, dilated common bile duct. The miscibility with bile prevents formation of globules.

Radiology 62:241-244, 1954.

Management of Ringworm of the Scalp

W. A. CASPER, M.D., AND J. MALONE, M.D.
Seaview Hospital, Staten Island, N. Y.

*Uniform methods for control of scalp ringworm are needed.**

THOUGH ringworm of the scalp is self-limiting and does not cause complications or deaths or affect future growth of hair, cosmetic and psychologic problems are involved.

The disease, due to *Microsporum audouini*, is contagious and continues to cause epidemics because no specific therapy is available. Therefore, means of control should be improved.

CONTROL

Methods of control now vary widely from state to state or even in localities within a state. Some states exclude infected children from school or require use of a protective head covering; others do not issue regulations. An increasing number of states are leaving control to local health or school authorities.

The following control program is suggested:

- All cases recognized during health examinations or by a survey with filtered ultraviolet light and proved by microscopic culture to be caused by *M. audouini* should be reported to the school authorities.
- Children in the classroom of a child with proved ringworm of the scalp should be inspected with a Wood's light.
- If the condition occurs among members of 2 or more classrooms, all children under 15 years of age in the school should be surveyed with Wood's light. Local health authorities should be advised, so that all children under 15 who may contact infected persons can be examined.
- Infected children should be treated immediately. Parents should be instructed about control and hygienic measures.
- Children should be permitted to attend school without wearing caps or without other restrictions if receiving proper treatment and if the parents are complying with directions regarding control.
- An unusually high incidence of cases should be reported to the state health department.
- Patients with disease after one year of treatment should receive special consideration.

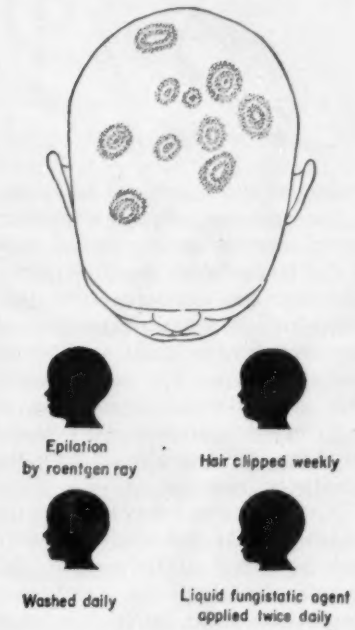
THERAPY

Topical drugs or roentgen-ray epilation or both may be used to treat ringworm of the scalp. Though dermatologists believe roentgen-ray epilation to be the best therapy, the procedure requires skilled technic

*The occurrence and control of ringworm of the scalp in the United States. New York J. Med. 54:1645-1651, 1954.

so that permanent alopecia will not result. Moreover, radiation has no biologic effect on the fungi and topical therapy is generally necessary after the epilation.

A two to three months' trial of topical therapy before resorting to roentgen-ray treatment is probably justifiable. Among the fungistatic agents used for local therapy are propionic acid, undecylenic acid with the copper and zinc salts, salicylanilide, and dinitrophenol.



Liquid preparations seem to be more effective than those with cream bases. A simple ointment base is possibly as effective as a fungistatic ointment if applied regularly with technical skill.

During local therapy, the head should be clipped weekly and thoroughly washed daily. Decupryl liquid—a solution of copper undecylenate, undecylenic acid with a wetting agent, aerosol, in a solvent liquid base containing isopropanol and tetrachloroethylene—is applied twice daily. Wood's light observations may be made weekly after scalp cleansing and before the drug is applied.

With this regime, over half of the cases may be negative by Wood's light after three months. Most of the remaining patients are cured after another two to three months.

¶ LYMPHOBLASTOMA CUTIS and mycosis fungoides may be greatly ameliorated by treatment with para-aminobenzoic acid as the potassium or sodium salt. When 2 or 3 gm. of either drug is given every two hours twelve times daily, C. J. D. Zarafonetis, M.D., A. C. Curtis, M.D., and L. W. Kirkman, M.D., of the University of Michigan, Ann Arbor, observe prompt recession of the lesions, fading of the erythema, and mitigation of the pruritus. Relapse may follow cessation of therapy, but improvement recurs with resumption of medication. As the sodium salt may increase the edema or initiate retention of fluid, the potassium preparation is to be preferred; no toxic effects have been manifested by the latter.

Cancer 7:190-201, 1954.

Dermatitis Caused by Shoes

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Veterans Administration Hospital, Bronx, N. Y.

*Thermoplastic material used in lining shoe toes sometimes causes dermatitis of the feet.**

CONTACT dermatitis of the feet due to shoes may closely resemble dermatophytosis and may become severe enough to prevent walking. In addition to the primary lesions, a secondary generalized dermatitis with cellulitis, lymphangitis, lymphadenitis, thrombophlebitis, or nephritis may develop.

The anterodorsal portion of the foot is most commonly involved. The lesion usually begins on the dorsal surface of the big toe as a slight erythema with scaling and gradually becomes vesiculated and involves the backs of the adjoining toes. The inflammation may remain localized or spread to the distal half of the dorsum of the foot, the interdigital webs, or, occasionally, the plantar surface. Another form of involvement is localized to the heel pad or the sole.

The dermatitis may be unilateral or bilateral; when bilateral, involvement of the second foot may be almost simultaneous or may occur weeks or even months later. The dermatitis is usually associated with severe pruritus and secondary infection may develop from scratching. Id-like reactions sometimes appear on the hands and forearms.

The common offending material is the thermoplastic material used in the box toes of shoes. The accelerators and antioxidants in rubber, which is a basic ingredient of thermoplastic material, are the actual sensitizers. The patient probably always wears a stocking or sock, but perspiration easily passes through, allowing contact with the sensitizing material.

No correlation exists between the length of time the shoes are worn and the onset of dermatitis. Excessive sweating of the feet or wetting of the shoes by rain or snow may initiate or exacerbate the lesion.

Patch testing of patients has given erratic and inconsistent results. Explanation of the varying results probably stems from perspiration leeching out sensitizing materials.

Treatment consists of eliminating shoes with thermoplastic material or rubber midsoles or heels, depending on the location of the dermatitis. Shoes made with flannel box toes should be worn instead.

*Dermatitis of the feet due to shoes. Arch. Dermat. & Syph. 69:651-666, 1954.

Management of Vasomotor Rhinitis

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Hahnemann Medical College, Philadelphia

*Drug therapy and surgical procedures should be combined for treatment of vasomotor rhinitis.**

ITCHING, paroxysmal sneezing, profuse watery nasal discharge, uniform swelling of the turbinate bodies, grayish white mucosa, and eosinophilia are typical manifestations of vasomotor rhinitis but patients do not have positive reactions to skin testing. The same primary findings together with positive skin reactions to common pollens is termed pollinosis. Patients with positive reactions to the ordinary offending contactants have specific contactant rhinitis or contactant allergy.

With vasomotor rhinitis, symptoms often begin suddenly after change in atmospheric temperature or humidity, or after eating.

Rhinoscopic examination reveals pale, boggy mucosa and considerable watery discharge; tenderness over the sinus areas and mucopus are rarely noted. The inferior turbinates are usually hypertrophied from the vestibule to the nasopharynx. Polypi are not frequent. Nasopharyngoscopic or posterior rhinoscopic studies show the posterior tips of the inferior turbinates to be mulberry-like and purple.

The finding of eosinophils on cytologic examination of the nasal secretions is virtually diagnostic, and this study should be done in all likely cases. Eosinophils in quantity alone are a sign of uncomplicated allergy or vasomotor rhinitis. Neutrophils in large numbers indicate infection. A combination of the two types of cells shows coexistence of allergy or vasomotor rhinitis with infection. With vasomotor rhinitis, an increased reaction to intradermal histamine may also be seen.

At the first examination, the nasal cavities, turbinates, meatuses, and mucosa of the nose and nasopharynx should be examined without shrinkage. The examination should be repeated after shrinkage. Polypi obstructive to comfortable breathing or to sinus aeration and drainage should be removed surgically. If polypi appear in the nasal passages, similar growths may also be found in the nasopharynx.

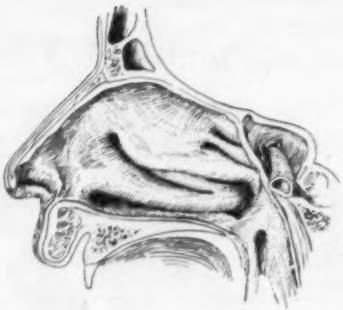
Submucous resection should be performed for nasal septum deviation or spurs blocking the airway or meatuses. When hypertrophied inferior turbinate bodies remain large after shrinkage, one or both of the inferior turbinate bones should be resected to induce retention of intact mucosa. If the inferior turbinates become smaller with shrinkage, the enlargement is

*Problems in vasomotor rhinitis. Arch. Otolaryng. 59:531-534, 1954.

probably due to soft-tissue swelling, and electrocoagulation of the engorged tissue is advisable.

Fortified house-dust immunization may be helpful even though no skin reactions appear. The subcutaneous injections are given twice a week, beginning with 0.1 cc. of the 1:100,000 dilution. The dose is increased 0.1 or 0.2 cc. each visit until 1 cc. is reached, then the same dosage schedule is repeated in order with the 1:10,000, 1:1,000, 1:100, and 1:10 dilutions until definite lasting improvement is noted. No further change in dose is then needed, although the interval between injections may be changed.

Histamine desensitization should also be utilized. Best results are obtained by the optimum dose method. By this method, the patient receives injections of histamine diphosphate that vary in concentration from 1:100,000 to 1:10,000,000. The strength of the dose depends on intradermal titration; 0.5 to 0.1 cc. of each strength is introduced at 2.5-cm. intervals along the inner surface of the forearm just below the outer layer of the skin. The dilution producing a wheal varying from 17 to 19 mm. in diameter is selected for treatment.



Injection of 0.1 cc. of the dilution subcutaneously is the initial dose and the amount is increased 0.1 cc. each subsequent visit until relief is obtained. A maintenance dose is then given whenever discomfort recurs, the interval varying considerably among patients.

Bland isotonic shrinking sprays and antihistamine medications may be used temporarily. However, the drugs should be gradually withdrawn as the immunologic therapy becomes effective.

¶ OCULAR LESIONS with infectious mononucleosis are probably frequent and may include bilateral iridocyclitis and papilledema. This involvement associated with a positive heterophil agglutination test and typically abnormal blood elements in a 17-year-old girl suggests to O. R. Tanner, M.D., of the Palo Alto Clinic, Palo Alto, Calif., that in some instances conjunctivitis, periorbital edema, optic neuritis, uveitis, and retinal disorders may be caused by the viral infection. The disturbances in the visual apparatus, with the accompanying pain upon rotation of the eyes and backward pressure on the globe, were of short duration and disappeared without tissue destruction or permanent functional loss.

Arch. Ophth. 51:229-240, 1954.

Common Urologic Problems

Urinary Infections Without Severe Symptoms

VINCENT J. O'CONOR, M.D.
Northwestern University, Chicago

MANY individuals, both male and female, carry a chronic infection of the urinary tract without definitive symptoms. In other patients, an unexplained, slightly elevated afternoon temperature, an annoying sense of fatigue or loss of energy, and a moderate increase in the frequency of urination, especially at night, may be the only subjective symptoms.

A clean specimen of urine, taken for analysis and culture, will show bacteria, blood, pus, and albumin in varying quantities. A "clean" specimen may be obtained from the male by carefully cleansing the glans penis and prepuce, retracting the foreskin, and collecting the urine without contamination in a sterile bottle or test tube. A catheterized quantity of urine is absolutely necessary to insure an uncontaminated specimen from a woman.

The etiology and pathogenesis of urinary tract infections have been well clarified during the past thirty years. The need to recognize systemic foci of infection is as important today in the careful management of chronic low-grade urinary infections as it was when Rosenow first created the furor on this subject thirty-five years ago.

Infected teeth, diseased tonsils, and chronic respiratory infections are all primary sources of urinary tract infection. Chronic lesions in the gallbladder and colon must always be considered as possible etiologic factors in prostatic, renal, and bladder infections.

The anatomic reasons for persistent or recurrent bacterial invasions have been clarified by improved and well-standardized diagnostic technics. Obstructive lesions in the urinary tract, as underlying causes of recurrent or persistent infection, are most common in the very young or in the older age groups. In our experience, bacterial invasion will be found associated with obstructive lesions in from 75 to 85% of older patients who present themselves with urinary infections without severe symptoms. In infants and children, the percentage is even higher.

Prostatitis, seminal vesiculitis, and stricture of the urethra are the most common associated lesions in young or middle-aged men. Prostatic or urethral lesions are the most common causes of obstructive uropathy in elderly men.

Chronic prostatitis and seminal vesiculitis at all ages may be responsible for the perpetuation of a relatively symptomless urinary infection. These conditions frequently convert a dormant infection into an active one. Fatigue, cold, or addi-

tional systemic infection may precipitate the exacerbation. Once bacterial invasion has complicated such obstructive lesions, it may be impossible to eliminate the organisms permanently until the bladder has been made to empty completely.

Most patients who have a so-called cord bladder will eventually have an associated urinary infection. This is true whether the condition is one of preclinical or uninhibited type or a clinical (paralytic) type. The tabetic bladder which furnished us so many patients with large quantities of infected residual urine thirty years ago is rarely seen in practice today. Multiple sclerosis, senile arterial changes, cord tumors, and herniated disks now represent the more common causes.

In young and middle-aged women, recurrent low-grade urinary tract infection is most commonly associated with chronic urethritis, paraurethral gland infections, and urethral strictures. Recurrence is common after coitus, especially if the vaginal introitus is so tight that the urethra receives mechanical trauma.

In women past middle age, the anatomic changes subsequent to endocrine deficiencies and the trauma of childbirth are common causes of urethral narrowing, relaxation of the pelvic floor, and uterine prolapse. These conditions are often accompanied by residual urine which sooner or later becomes infected.

Middle-aged and elderly women may have bladder neck obstructions which are clinically comparable to the obstructing prostate in the male. Diverticulum of the female urethra is more common than previously supposed and should always be looked for in women complaining of urethral distress, frequency of urination, or painful intercourse.

Upper urinary tract obstructions are often present without causing localized pain or discomfort. The only symptom of a functionless hydronephrotic kidney may be persistent pyuria and bacteriuria.

When a patient appears for examination and the urine is found to contain an excessive number of leukocytes in the centrifuged specimen, a bacterial culture should be made. The organisms present should be accurately identified and, at the same time, their relative sensitivity to the most commonly used urinary antiseptics should be determined in vitro.

It is not necessary to hospitalize all patients who have urinary tract infections without pain, fever, or disabling symptoms. In our experience, only about 50% of those who consult us with urinary infections need to be hospitalized. The remainder can be adequately studied and treated as ambulatory patients.

Treatment of urinary infections, chronic or recurrent, requires: [a] search for and elimination of foci of infection; [b] urologic examination to determine the possible existence of obstructive lesions, calculi, tumors, anomalies, or other exciting causes; [c] chemotherapy; and [d] surgical, transurethral, or manipulative treatment.

The search for and elimination of foci of infection should include

the correction of mouth, throat, gastrointestinal, or genital lesions which might contribute to blood-borne or contiguous infection of the kidney or bladder. Endocervical and vaginal infections and prostatic and seminal vesicular involvement merit special consideration.

In women, urethroscopic and cystoscopic examination can readily be done as an office procedure. It may or may not be advisable to catheterize the ureters in the office, but catheterization is frequently used in women to obtain separate kidney specimens for analysis and culture. Divided renal function tests as to the relative excretion of phenolsulfonphthalein or of indigo carmine can be readily made in the office. We do not, as a rule, perform retrograde pyelography in our office, but many urologists do.

In a large series of patients of all ages with urinary tract infections which we recently reviewed, obstructive lesions of some type were discovered in 75%. The cause of obstruction was apparent in the bladder, bladder neck, or urethra in two-thirds of these patients. The remainder had lesions in the ureters, kidney pelves, or renal parenchyma.

When pus is found in the urine and local examination reveals a urethral caruncle, prolapse of the bladder and uterus, a cystourethrocele, or a large prostate, one should not hastily conclude that these obvious lesions are the sole cause of the patient's urinary tract infection. Unless the infection is very minor and transient, the patient should have a cystoscopic examination and roentgen visualization of the entire urinary tract.

The present availability of efficient urinary antiseptics has done much to assist in the elimination of urinary tract infections. Identification of the organisms and of their relative sensitivity to these drugs can be obtained by any doctor who has, or is in contact with, a clinical laboratory.

Sulfonamides of improved urinary solubility offer the cheapest and most easily tolerated drugs for routine office prescription. The broad-spectrum antibiotics are most potent against a wide range of gram-negative and gram-positive microorganisms. Various combinations of the mandelic acid group of drugs should still be considered for certain patients with recurrent infection.

The most common organisms found in low-grade urinary infections are, in the order of frequency: *Escherichia coli, Streptococcus faecalis, Pseudomonas aeruginosa, Aerobacter aerogenes, Proteus,* and *Staphylococcus albus* and *aureus.* Hemolytic and nonhemolytic streptococci are occasionally found. We depend upon the sensitivity tests of the identified organisms for a rational chemotherapy. At present, we test against: sulfonamides (Gantrisin, Elkosin), penicillin, Erythromycin, dihydrostreptomycin, aureomycin, Terramycin, Achromycin, Furadantin, and polymyxin B (Aerosporin).

Some patients react unfavorably to any or all of these drugs, and each individual must be dealt with as a separate problem. It is illogical

to make the cure worse than the disease by forcing mandelamines, sulfonamides, or antibiotics that upset the gastrointestinal physiology and the intestinal flora. Allergic reactions to any of these drugs may occur and demand prompt recognition on the part of the physician. Repeated urine cultures often show that we have destroyed one form of bacteria only to have it replaced by one or more different organisms. Research laboratories are constantly producing new and often more efficient antiseptics for the treatment of urinary tract infection. Every physician needs to keep constantly aware of these forward steps.

Diabetes is a frequent companion of urinary tract infection. Such coexistent conditions must be recognized and brought under control.

Chronic prostatitis or seminal vesiculitis and urethral strictures in the male may require prolonged and repeated manipulative treatments in the office. The elimination of possible systemic foci of infection in these patients must never be overlooked. The role of urinary antiseptics and their ultimate value in permanently eradicating the infection will depend largely upon recognizing the underlying cause of the infection and affording proper corrective treatment.

The female urethra is a special focus for reinfection of the bladder and even of the upper urinary tract. Chronic urethritis and paraurethritis, stricture, diverticulum, and other such conditions must be completely cleared up if recurrent infections are to be prevented.

This discussion is not intended to minimize the importance of properly chosen urinary antiseptics in the treatment of urinary tract infections without severe symptoms. Rather it is meant to emphasize the great need for searching out the underlying cause that originally initiated the infection and which prevents the treatment by the antiseptic alone from effecting a permanent and lasting "cure."

Urethritis in the Female

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EVALUATION of the female urethra by the physician in general practice is most helpful and the results are quite satisfying in cases of urethritis.

The classical history of female urethritis is a sequence of urinary frequency, urgency, terminal tenesmus, and retention or incontinence. The more severe cases are complicated by chills, fever, and even hematuria. These occur with either the ascending or descending infections and may appear whether pus is found in the catheterized urine or not. Recurrent episodes indicate the need for careful evaluation of focal areas in the descending types and of contaminating factors in the ascending types.

The normal urethra has a smooth, closed, oval meatus. This protects against contamination and infection. The adult canal readily admits a 28F bulb bougie or a 28F sound.

The abnormal urethra presents a rounded, open meatus. This

meatal type may be a congenital malformation or an acquired cicatricial constriction, the result of trauma or inflammation. The abnormal meatus predisposes the urethra to ascending contamination and infections. The canal will not readily admit a 28F sound without trauma. The fibrosis is in the meatal floor and produces a postmeatal depression or pocket. Prolapsed mucosal folds and caruncle formations gradually develop in the area.

The descending factors in urethritis arise from areas of systemic focal infections and are most prevalent with the abnormal urethra, but may occur in a normal one. Investigations should be made of the oral, respiratory, and gastrointestinal areas. Chemical reactions and allergic manifestations, when present, must also be considered.

The ascending factors in urethritis are due to contamination by secretions from the anus, clitoris, perineum, vagina, or cervix. These are more readily introduced through an abnormal urethral meatus, but also occur in a normal urethra.

The following complicating factors in urethritis, both ascending and descending, are to be considered: urethral diverticulum, calculus, caruncle, and tumor. Mechanical urethral displacements in cystocele, rectocele, and urethrocele formations may either produce or exaggerate such symptoms.

Obviously, in the female, the attending physician should inspect the urethral orifice. The nurse assigned to collect a catheterized urine specimen should not only observe the type of urethral orifice, but also note the condition of the clitoris, vaginal orifice, and anus and report to the physician any abnormal findings as well as difficulty encountered in introducing the catheter.

Before a diagnosis is made or treatment instituted, the voided specimen, unless pus free, should always be checked with a catheterized specimen. A Gram stain or culture of the centrifuged sediment should be made as a guide to more specific antibiotic therapy.

The proper therapy for urethritis should be the recognition and correction of urethral abnormalities. A definite understanding of the prevailing factors in both the ascending and descending infections is essential in order that they may be eliminated. Personal hygiene and medications are necessary palliative procedures. The urethral meatus should be treated by the patient after each urination with an antiseptic ointment. The appropriate antibiotic therapy should be given when bacteria are identified. There should be a cleansing or antiseptic douche morning and evening.

Irritating foods must be eliminated. Tea, coffee, chocolate, and alcoholic and carbonated drinks are avoided. The total intake of fluids should be restricted to thirst requirements.

Sexual excitement, physical activity, and long auto rides should be curtailed. Bowels should be kept open by laxatives or enemas. Urethral irritations and frequent urinations will be decreased thereby.

Our experience with recurrences is that complications were not rec-

ognized during the original episode. Further evaluation of the meatus and endoscopic urethral study will enable additional corrections and a cure.

Complete exploration of the upper urinary tract by cystoscopy is preferable to use of the intravenous urogram. Active pathologic conditions, when present and contributing to the urethritis, must be corrected.

We believe it a mistake, in chronic cases, to attempt correction of a urethral meatal stenosis by dilatation. A radical meatotomy, followed by urethral dilatation, is the preferred procedure.

The granular and cystic urethral changes may be corrected in mild cases with weak nitrate of silver applications; however, the majority will eventually respond only to endoscopic coagulation.

The usual referred pains from urethritis are in the back, abdomen, and legs. The lumbar and sacral backache is dull in type, but persistent. The abdominal pain is in the suprapubic area and resembles that of the menstrual cycle. Frequently there are severe stabbing umbilical pains from nerve fibers of the urachus. These may be exaggerated during urination. The leg pains are of the adductor surfaces of the thighs, and the sciatic distributions may be involved.

Patients have made the interesting observation that the corrrection of such urethral pathology not only eliminated the urinary symptoms but also provided relief of the associated back, leg, and abdominal symptoms.

Urethral Stricture

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URETHRAL stricture, formerly one of the most common urologic conditions encountered in general practice, is a rarity today. With the advent of the sulfonamides and antibiotics, rapid cure of gonorrheal urethritis now prevents the complications that lead to the formation of such strictures.

The pathogenesis of stricture varies somewhat according to [1] the etiology—congenital, traumatic, or inflammatory—and [2] age and sex.

STRICTURE IN CHILDREN

Congenital stricture is not uncommon in children and is frequently accompanied by other anomalies of the genitourinary tract. The lesion is merely a narrowing of the meatus or the glandular urethral canal, the surrounding urethral structures being normal. This condition is quite different from the more common acquired stricture due to chronic inflammation of the preputial region. The latter stricture is seen more often in circumcised than in uncircumcised boys and is due to chronic infection and irritation plus constant rubbing of clothing. Ulceration and crusts form over the meatus and are followed by scarring and stricture. Usually the lesion is restricted to the meatus and glandular urethra, with associated preputial adhesions and chronic inflammation.

In the male child, as in the adult, postgonorrheal stricture of the bulb-

ous and pendulous urethra is the most common of the acquired types of urethral stricture. Nonspecific urethritis, vulvitis, or vaginitis may also be the cause. Rarely there occur traumatic strictures. These may follow straddle injuries or urethral instrumentation with the introduction of a foreign body of traumatizing nature.

Symptoms in children are usually slight and consist of frequency, slight hesitation, burning, dysuria, and, frequently, enuresis. With the more dense strictures there may be marked diminution in the size of the stream, with dribbling and terminal hematuria. Diagnosis is made by history, inspection of the size and force of the stream, and, more particularly, calibration of the urethra. The urethra of a 4-year-old child should admit a 12F instrument easily; a 10-year-old, an 18F; a 14-year-old, a 22F. However, children vary considerably.

Treatment consists usually of meatotomy and urethral dilatation. A special meatotomy clamp which presses the tissue tightly together in a groove to obliterate the blood vessels is first applied to the glandular urethra (Fig. 1*a*). It is removed after a few minutes, and an incision is quickly made along the ischemic groove (Fig. 1*b*). If necessary, manual pressure for two or three minutes will usually stop any bleeding.

Suturing of the mucosa to the skin is seldom required in children. The mother should be advised to keep the edges separated each day either manually or by the insertion of a small sterile meatal dilator

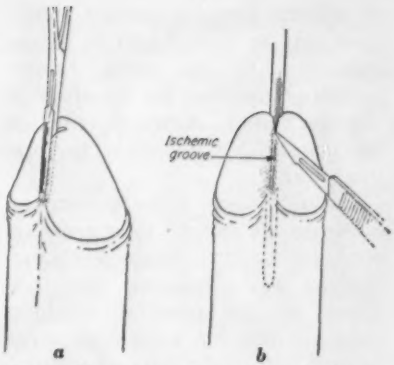

Fig. 1. Meatotomy clamp is applied (*a*); after removal of clamps, incision is made along ischemic groove (*b*).

which can be made from a shortened golf tee. In the adult, meatotomy is done similarly, but it is sometimes advisable to put a suture or two between the mucosa and the skin to prevent the raw surfaces approximating and re-forming the stricture.

For strictures farther back than the glandular urethra, dilatation must be carried out in the child just as in the adult. This treatment is very satisfactory for children. Practically all are symptomatically benefited by the first dilatation, and often only one treatment is necessary.

STRICTURE IN MEN

Congenital atresia is very rare and congenital stricture is uncommon; urethral stricture in the adult male is usually acquired. The average male urethra admits a No. 24F sound. One admitting sounds smaller than 22F is abnormal.

The etiology of acquired strictures may be traumatic, chemical,

or inflammatory in nature. Strictures may be caused also by plastic induration of the penis, tumor, lymphogranuloma, the insertion of foreign bodies, chemical injection for prophylaxis, or other urethral treatments.

Complications from gonorrheal urethritis are still the most common etiologic factor. Modern chemotherapy has decreased the incidence of new urethral strictures tremendously, but we still see those formed before the days of sulfonamides and antibiotics. Most postgonorrheal strictures were caused not by the disease but by the physician's instrumentation early in the disease and by overtreatment. The acutely inflamed urethra should never be instrumented. Keyes said, "For gonorrhea to get well, we should keep the physician out of the urethra."

One of the most common strictures in older men today is that following prostatectomy, either transurethral, suprapubic, retropubic, or perineal. This lesion is due to the pressure of a pre- or postoperative catheter with subsequent inflammation in the submucosa resulting in scarring.

After a transurethral operation, the stricture is the result of [1] injury to the penile urethra by an instrument too large to enter easily or [2] damage to the membranous urethra which is used as a fulcrum for the up and down movement of the resectoscope. It has been reported that during transurethral resection of a large gland, the instrument is often moved one to two thousand times. Patients should be followed for several years after the operation to be sure that stricture is not re-forming.

The pathologic picture of the formation of a stricture is a submucosal infiltration of round cells. This soft infiltration later becomes firm, and fibrous tissue is laid down. The fibrosis later contracts to form a stricture. Gonorrheal strictures usually form over a period of five years or longer, while traumatic strictures may occur within a few months.

Gonorrheal strictures are most commonly found in the bulbous urethra, but also appear in the anterior portion to within 2 in. of the meatus. The anterior urethra is lined with columnar epithelium, which is excellent breeding ground for gonococci and other organisms. This columnar epithelium changes in the membranous portion of the urethra to transitional epithelium, which is resistant to infection. Because of this and the absence of glandular structures in the membranous urethra, inflammatory strictures rarely occur in the posterior urethra.

The fibrous area or areas may be localized to one side of the urethra, forming an eccentric urethral lumen, or may extend completely around the urethra, in which case a ring with a central opening results. These fibrotic areas encroach on the urethral lumen, with resultant rigidity and loss of elasticity. With the forced urinary stream meeting this obstruction and the periurethral glands harboring bacteria, infection and ulceration occur. The urethra proximal to

the stricture dilates, intensifying the infection. Periurethritis and abscess formation may lead to rupture of the urethra and urinary extravasation or fistula. Back pressure damage to the upper urinary tract appears late in the disease and only from rather severe strictures.

Symptoms of stricture in the male may be mild, with slight burning, irritation, or itching of the urethra and mild urinary symptoms of frequency, burning, and dysuria. A thin watery urethral discharge is often recognized. Diminution in the force but particularly in the size of the stream is evident. Finally, there is dribbling which may be due to gradual emptying of the dilated urethra above the stricture. Eventually, acute retention or overflow incontinence occurs. Sudden acute retention is not nearly as frequent from strictures as from benign prostatic hypertrophy. A stricture usually gives prolonged warning of increasing urethral stenosis.

Diagnosis—The above history of the signs and symptoms of obstruction plus actual calibration of the urethra will confirm the diagnosis. Intravenous urograms may show upper urinary tract lesions. The urethrogram will outline a strictured area.

Complications resulting from urethral stricture are frequent and many: [1] hemorrhage, [2] back pressure, [3] infection, or [4] a combination of all three, first in the lower and later in the upper urinary tract. Periurethral abscess, particularly in the dilated urethra, prostatitis, epididymitis, seminal vesiculitis, inflammation in the glands of Littre or Cowper, elephantiasis, and extravasation may occur.

Location of the extravasation depends on the portion of the urethra involved. If in the pendulous urethra, the extravasation is limited by Buck's fascia; if in the bulbous urethra anterior to the triangular ligament, by Colles' and Scarpa's fasciae. If the extravasation is posterior to the triangular ligament, there is posterior extravasation around the prostate and perirectal spaces and anteriorly under the abdominal muscles. The different extravasations can be fairly well identified by external examination.

The diagnostic procedures for proving the presence of a urethral stricture must be carried out with aseptic surgical technic. The investigation necessitates prophylactic chemotherapy to prevent spreading an infection which may be in the urethra or introducing a new organism by the operation. Sulfonamides or antibiotics should be given the day before instrumentation.

Irrigation of the urethra with an antiseptic may be advisable, but is not necessary. The glans, meatus, and anterior half of the penis are cleaned with 1:1,000 Zephiran solution. A sterile wide gauze square is wrapped around this part of the penis so that it may be held by the operator. Sterile rubber gloves are always used during instrumentation.

With a small Chetwood syringe, sterile olive oil is injected into the urethra. This will lubricate and also determine whether there is a dense anterior stricture. If the oil

does not pass easily into the bladder, a dense stricture or sphincter spasm is probably present. *Excessive pressure must never be used; oil embolus has been known to occur when force has been applied.* Olive oil is used instead of other oils because its rapid absorbability makes oil embolus less likely.

A 22F bougie à boule with an acorn tip is then passed only in the anterior urethra, not beyond the external sphincter. The bougie is then withdrawn with a jerky motion, and any urethral narrowing or fibrous constricting bands will be felt.

If there is a stricture of the meatus, a meatotomy must first be carried out. The next step is to take an 18 or 20F catheter and see if this passes easily through the urethra into the bladder. If it does, the patient has no stricture of any magnitude. This can then be followed with sounds to a 24 or 26F size. If the catheter does not pass, one may then investigate the lumen by passing sounds 18 to 20F, taking great care not to use any force whatsoever. It is dangerous to attempt a sound smaller than 18F in an unfamiliar urethra.

Treatment—With slight stricture, simply the passing of sounds of gradually increasing sizes is all that is necessary. The weight of the sound and the hand should be sufficient to draw the sound as far as the bulbous urethra; then, with a hand in the perineum pushing up on the tip of the sound, one can obliterate the arch of the bulb, and the sound passes more easily into the membranous urethra. As the right hand is lowered, the curve of the sound takes it through the prostatic urethra into the bladder.

At no time should any pressure be used. This is the best of urologic advice: *Use no force!* The size of the sounds should be gradually increased until resistance is felt. If bleeding occurs at any time, sounding should be discontinued. Usually the passage of 3 sizes of the even-numbered sounds is sufficient at one treatment.

If an 18F sound will not pass, one uses filiforms with a thread on the end to which followers or catheters can be attached. The usual filiforms employed are 4 and 6F straight and pigtail types. It is often advisable to relax the patient with morphine at the first investigation with filiforms.

If a single filiform will not find the urethral lumen, others may be passed alongside. This may be necessary when the opening is eccentric or when false pockets are present. The first few filiforms will fill up the false pockets, and the last filiform passes through into the normal urethral channel (Fig. 2*a*). This is left in place and the remaining filiforms are withdrawn. To this filiform, a follower or Phillips catheter is threaded and passed into the bladder.

If one finds difficulty in inserting filiforms into the urethra, it is advisable to bend the tip of the filiform. Then, if a twisting motion is used, the tip, coming out at an angle from the main axis, often finds the eccentric urethral channel. Pigtail filiforms are also helpful in these difficult cases. If the filiform

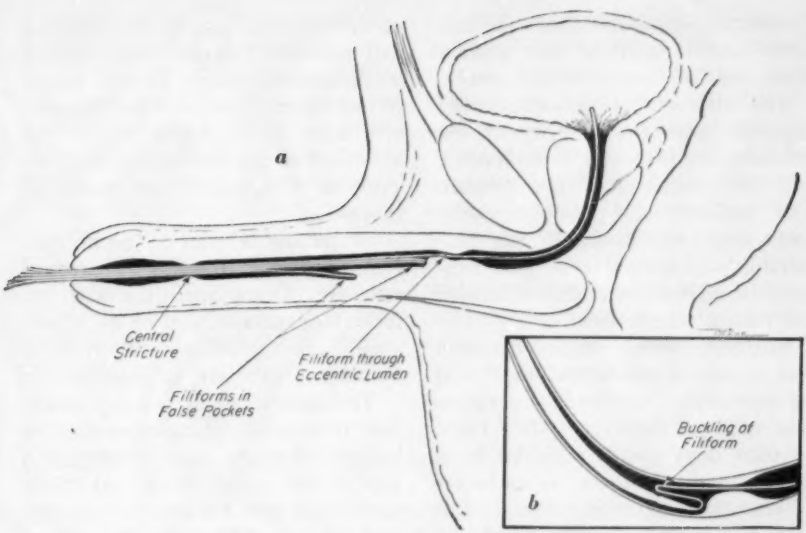

Fig. 2. First filiforms fill up false pockets and last filiform passes into normal urethral channel (*a*); buckling of filiform (*b*) may cause trauma and false passage.

fits tightly and is grasped by the strictured area, the stricture is known to be of filiform size. In such instances it is often advisable to tie the filiform into the urethra and leave it there a few days. This may be done by a silk suture to the skin or adhesive around the glans. The patient can usually void around this quite easily and, with the filiform through the strictured area, the fibrous tissue is slowly softened so that subsequent dilatation is much easier.

Increasing sizes of followers are threaded onto the filiform until it feels tight in the urethra. When resistance to the follower is felt, no attempt at further dilatation should be made at that treatment. After the followers have been passed to a size 20 or 22F, filiforms probably need no longer be used, and subsequent treatment can be carried out with sounds, provided there are no false pockets.

In the use of filiforms and followers, great care must be taken to get the filiform into the normal urethral channel, which can be ascertained by a definite feel as the filiform slips past the strictured point into the true urethra. If the filiform buckles in the bulbous urethra when the follower is advanced, trauma and false passage may be caused. If at any time the filiform does not feel perfectly free in passing into the bladder, it should be withdrawn and inspected. If there are two sharp bends near the junction of follower and filiform, it is buckling (Fig. 2*b*). One must also be sure that the filiform is tightly threaded to the follower before introduction, as infrequently

the filiform separates from the follower and remains in the bladder when the follower is withdrawn.

The interval between dilatations depends upon the severity of the stricture, its response to dilatation, and the reactions of the patient. The patient who responds with chills and fever probably has bacteremia and special care with hospitalization beforehand is indicated for future treatments.

Strictures which require frequent and repeated dilatations may best be treated by insertion of a retention urethral catheter. After three or four days this is replaced by a larger one and, so on, by catheters of gradually increasing size. In this way the urethral lumen is slowly enlarged. This is an excellent method for softening dense recurrent strictures. Chemotherapy is advisable during such maneuvers.

Finally, if strictures persist no matter what method of therapy has been used over a long period of time, operation is indicated. Either internal or external urethrotomy may be done or, as has been done more recently and with good results, plastic repair may be employed. These are definitely not office procedures.

The Kollman dilator, which is introduced into the urethra and then manually gradually dilated, is mentioned only to be condemned in the hands of the general practitioner. External urethrotomy is never performed for strictures in the pendulous urethra, because fistulas will result, there being no supportive tissue around this portion of the urethra. But proximal to the bulbous urethra, no fistulas will remain. Internal urethrotomy is dangerous except in the hands of the expert. Cortisone and tocopherol have been suggested for the softening of the fibrous tissue; however, their value has not been established.

Traumatic injuries to the urethra require prompt therapy to prevent stricture. Open operation with interlocking sounds and so on is advisable to establish the urethral continuity as early as possible.

Threatened acute urinary retention from urethral stricture may be helped by home care. Sitting in a tub of hot water fifteen to thirty minutes often relieves congestion and edema and allows the patient to urinate spontaneously. Hot baths, rest in bed, free evacuation of the bowels, and heat to the perineum are helpful. These measures should be used after complete urinary retention to help relieve the congestion in the perineum and around the strictured area. If urination does not result, the above instrumentation should be carried out. If this is unsuccessful, a trocar should be inserted suprapubically into the bladder and a retention catheter passed through it. This may be left in place while instrumentation is performed in the urethra when desired.

STRICTURE IN WOMEN

Stricture in women is probably far more common than realized. Congenital type is rare; stricture acquired from chronic inflammation of surrounding structures is the most common form.

A 28F sound should pass easily through the female urethra.

Hypertrophy of glandular tissue at the vesical orifice similar to prostatism has been described as producing obstructive symptoms in the female. A tumor, tuberculosis, chemical injections for urethral infections, instrumentation, or obstetric manipulations may cause urethral stricture.

Chronic urethral infection in the female is one of the most common conditions encountered in general practice. Symptoms include slight burning or irritation in the urethral region, frequency, dribbling, and perhaps enuresis. Urethral dilatation usually affords prompt relief.

In the instrumentation of all urethral strictures, prophylactic chemotherapy and local antisepsis together with care and gentleness in the operation are paramount. No force should be used at any time. Strictures of the urethra are probably never cured, and hence must be watched for years.

Aureomycin for Nongonococcal Urethritis

TAGE JENSEN, M.D., MUNICIPAL CLINIC FOR GRATIS TREATMENT OF VENEREAL DISEASES, COPENHAGEN, reports successful treatment of nongonococcal urethritis with aureomycin.

Since viral and similar agents including the pleuropneumonia-like L organisms probably cause most nongonococcal infections of the urethra, the therapeutic effect of the wide-spectrum antiviral antibiotic was studied. Aureomycin in doses of 1 to 2 gm. for three or four days was given to 62 male patients with nongonococcal urethritis; 68 patients received only subcutaneous injections of 1 cc. of physiologic salt solution once a week. With placebo treatment 22% recovered, compared to 66% with aureomycin therapy. L organisms, demonstrable in 22% of the cases, were eliminated after aureomycin treatment. The sexual partner must be treated to prevent recurrence.

The chance of recovery does not seem to be influenced by the duration or the severity of the disease before therapy. Fewer patients with associated prostatitis recover; no time relationship exists between the duration of infection and the appearance of prostatitis.

The discharge with nongonococcal urethritis is variable in appearance and often changes during the course of the disease. Ordinarily the flow is less copious and thinner than with gonorrhea. The discharge usually commences insidiously and at first is scanty, grayish, mucoid, and often noticeable only in the morning.

Though prostatitis is a common accompaniment, cowperitis and epididymitis are seldom noted. Hematogenous complications such as conjunctivitis and arthritis are frequent and sometimes occur with signs of Reiter's disease.

Nongonococcal urethritis treated with aureomycin. Am. J. Syph. 38:125-135, 1954.

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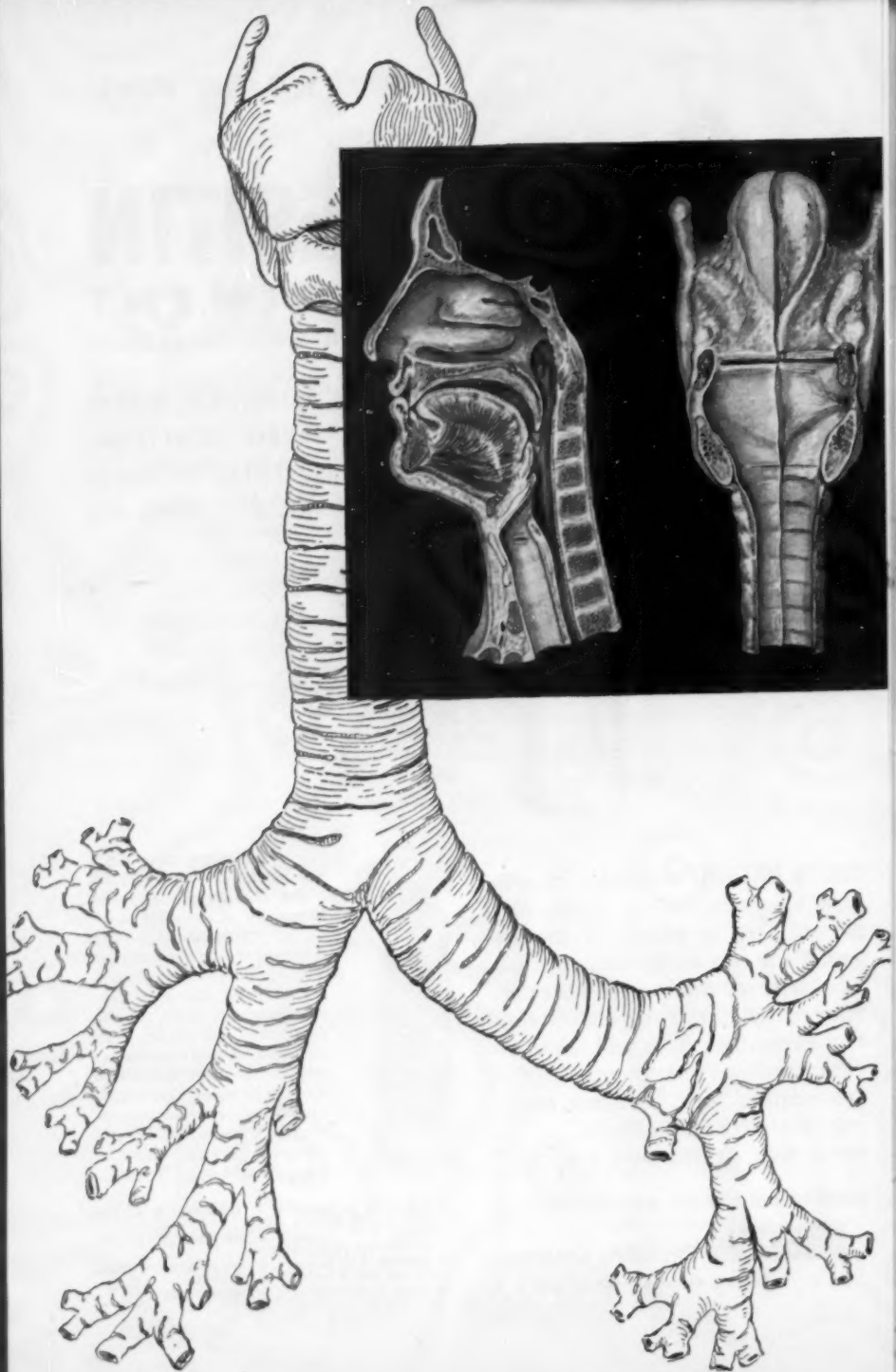

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b. Contains ingredients of established clinical value.

c. Ingredients provide wide range of usefulness.

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a. asthma
b. hay fever
c. allergic rhinitis with and without asthma
d. drug reactions
e. urticaria
f. contact dermatitis
g. atopic dermatitis
h. physical allergy
i. eczematous dermatitis

III. RATIONALE:

a. Diphenhydramine, Searle, 37.5 mg. Antihistaminic of recognized high potency and extensive clinical background.

b. Aminophyllin, Searle, 150 mg. Widely used bronchial relaxant. Central nervous stimulating action offsets the soporific effect of diphenhydramine.

c. Racephedrine hydrochloride, 25 mg. Potentiates action of Aminophyllin and diphenhydramine. Central nervous stimulation further minimizes antihistamine side effects.

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a. *Adults:* one or two Hyadrine tablets three or four times daily, depending on the individual requirements.

b. *Children:* 50 to 100 pounds, one-half to one tablet every four hours; for children weighing less than 50 pounds reduce dosage accordingly.

V. PRECAUTIONS:

a. Some few patients may experience drowsiness from diphenhydramine in spite of stimulation from Aminophyllin and racephedrine. They should be warned against driving automobiles and similar pursuits.

b. Because of its racephedrine hydrochloride content, Hyadrine should be used with caution in patients with hypertension, organic heart disease, thyrotoxicosis or diabetes mellitus.

G. D. Searle & Co., Research in the Service of Medicine.

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Bronchial Asthma in the Aged

JOHN M. SHELDON, M.D., ROBERT G. LOVELL, M.D., AND KENNETH P. MATHEWS, M.D.
University of Michigan, Ann Arbor

*Reliance on symptomatic measures alone will not suffice in treating asthma in the elderly patient.**

ASTHMA should not be confused with other chest conditions which occur relatively often in the aged. Intermittent paroxysmal wheezing dyspnea separated by intervals of complete freedom from pulmonary symptoms is characteristic of uncomplicated asthma.

All the details of the asthmatic bouts—onset, course, characteristics, frequency and duration of attacks, seasonal or perennial nature—should be known and frequently will reveal the causative factors. Therapy should correct the cause as well as supply relief.

Simple avoidance of known offenders may suffice to eliminate the condition. Patients can be protected from animal danders, vegetable gums, cottonseed, and other similar agents. Avoidance of food allergens is usually easy.

If the patient is allergic to house dust, the house, particularly the bedroom, should be kept free of dust. Pillows and mattress should be enveloped in dust-proof covers. Heavy rugs and curtains and rug matting should be removed and hot air registers enclosed.

Seasonal aeroallergens are not avoided so readily. Driving with car windows closed and keeping bedroom windows shut at all times may be of value. The patient's tolerance should be increased by hyposensitization.

Management is more difficult with infectious asthma. After sputum cultures have been obtained, the bronchial infection should be eradicated as much as possible by appropriate antibiotics or chemotherapy. Postural drainage sometimes is useful, especially after use of aerosol bronchodilators, and may be supplemented occasionally with aerosol antibiotics. Infection in the paranasal sinuses should be sought for and treated.

Protecting the patient from nonspecific pulmonary irritants such as chemical fumes, paint odors, tobacco smoke, lint, soot, and dust of all types may be of benefit. Rapid changes in temperature and humidity may aggravate symptoms.

Symptomatic treatment for temporary relief of asthma is important but does not assure good long-range results. The physician may be reluctant to inject epinephrine into aged patients with hypertension, cardiac arrhythmia, or coronary artery disease. Isopropylarterenol, which is closely related to epineph-

*Management of bronchial asthma in the aged. Geriatrics 9:193-204, 1954.

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Thiamine	1 mg.
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rine and is usually given sublingually or by aerosol, is not so likely to cause cardiovascular side effects. Although epinephrine and isopropylarterenol are fairly potent and rapid in action, asthma is only briefly suppressed.

Drugs containing ephedrine are satisfactory in many cases of slight asthma requiring sustained relief. Usually ephedrine is given in combination with a barbiturate to reduce side effects; aminophylline also is included in many ephedrine preparations.

Aminophylline is of greatest value for severe asthma when given intravenously or rectally in the form of suppositories or retention enemas. The intravenous medication is often efficacious even in epinephrine-refractory cases. Iodides are the preferred expectorant and should always be used unless the patient is known to be sensitive.

Sedatives which do not depress respiration should be selected. Chloral hydrate or, with severe cases, ether in oil by rectum is recommended. Barbiturates are satisfactory for slight asthma. Morphine should not be used.

Antihistamines, which, through an atropine-like effect, may cause harm by thickening bronchial secretions, should be avoided in adults with asthma. Sometimes the usual expectorants fail to thin the sputum satisfactorily. Recently, aerosol detergents such as Alevaire and aerosol trypsin have been utilized with some success.

ACTH and cortisone are potent agents for symptomatic control of asthma. Short courses during severe episodes when conservative measures fail are well-established therapeutic procedures.

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Shoulder Movement in Health and Disease

GUY H. FISK, M.D., AND GARNET COLWELL, M.D.
Montreal General Hospital, Montreal

*Roentgenographic studies show that the shoulder joint motions of healthy persons are similar and that with disease or injury of the shoulder the joint between humerus and scapula is commonly affected.**

An individual's physique or development of muscles has no effect on the range or the component details of movement of the shoulder. Office workers, coal heavers, or window washers show the same components in all shoulder movements. However, women have a greater range of scapular movements on the thorax than do men.

Roentgenograms of shoulders of healthy males and females, active and sedentary, reveal that in all phases of shoulder action, movements occur at the scapulohumeral, scapulothoracic, acromioclavicular, and sternoclavicular joints. Shoulder muscles act in groups and antagonists are completely inhibited. At rest, muscles are not involved and position is apparently maintained by ligaments and gravity.

Shoulder movement may be studied in the following 6 positions:

Position 1 is full external rotation attained by bending the elbow at right angles and, keeping the arm close to the side, rotating externally as far as possible. The glenoid then faces laterally and the hemispherical head of the humerus is tilted to an angle of 45° facing superomedially so that only the lower third articulates with the glenoid of the scapula. The clavicle is in classic position.

Position 2, full internal rotation, is attained by placing the forearm across the back with the arm close to the side. The scapula has glided forward and laterally on the chest wall so that the vertebral border is over twice as far from the thoracic spine as in Position 1. The coracoid process is almost anteroposterior; the glenoid process faces anterolaterally. The bicipital groove forms the medial border of the upper part of the humerus. The superior surface of the clavicle is tipped forward.

Position 3 is external rotation in abduction. The arm is abducted and lifted to 90° sideways with the elbow at right angle and the anterior surface of the humerus upward. The glenoid faces 45° superolaterally, and the inferior angle of the scapula is at the outer edge of the rib cage.

Position 4 is full internal rotation in abduction. From Position 3, the anterior surface of the humerus is rotated downward. The superior border of the scapula moves forward and the inferior angle moves

*Shoulder movements in health and disease. Arch. Phys. Med. & Rehabil. 35:149-155, 1954.

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equivalent to more than 10 loaves of bread

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equivalent to about 14 servings of spinach

Calc. pantothenate ..... 10.0 mg.

equivalent to almost 4 quarts of milk

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equivalent to more than 15 apples

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away from the thoracic cage. The lesser tuberosity of the humerus moves from the superior to the inferior position. The superior border of the clavicle faces anteriorly.

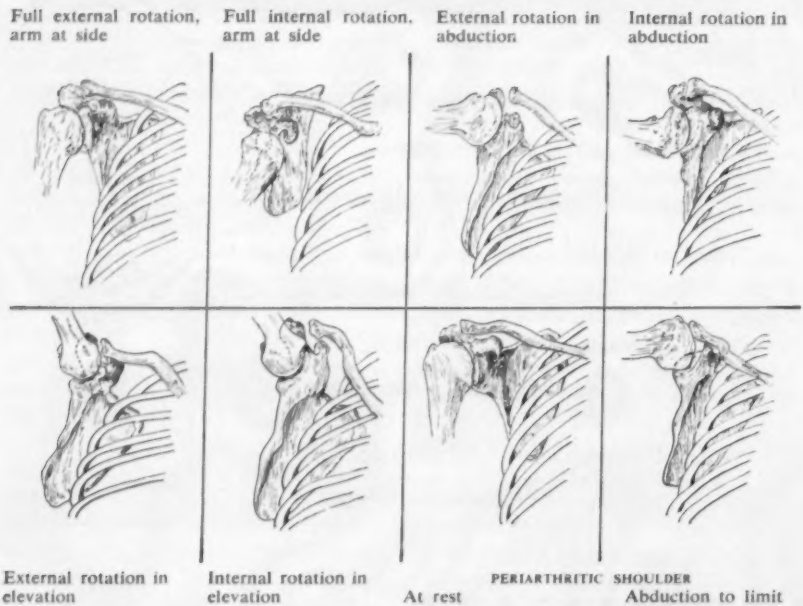
Position 5 is full external rotation attained by raising the arm 180° from Position 1 to the vertical position. The glenoid faces laterally and upward at an angle of 40° with the vertical, and the upper third of the hemisphere of the humeral head articulates with the glenoid. The inferior surface of the acromion faces forward. The clavicle is at a 45° angle, with the horizontal on the sternum.

Position 6 is similar to Position 5 except that hand and forearm are rotated internally to point as far forward as possible. Only slight motion occurs, perhaps 10° of motion at most, obtained by sliding the scapula on the chest wall.

In periarthritis, rheumatoid arthritis, and fracture of the surgical neck of the humerus, limitation of movement is at the scapulohumeral joint. As no evidence of muscle spasm is found, pain is probably owing to extracompensatory movement of the scapula. Treatment should be directed toward restoring movement of the joint.

The presence or absence of the supraspinatus is of little or no importance to the range of shoulder movement.

Movements of the Shoulder in Health and in Disease



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postural hypotension . . . Reserpoid has no presently defined contraindications. It is ideal for the "average" case—that large group of mild and moderate hypertensives who have symptoms, but no demonstrable pathology. In severe hypertension with advancing vas-

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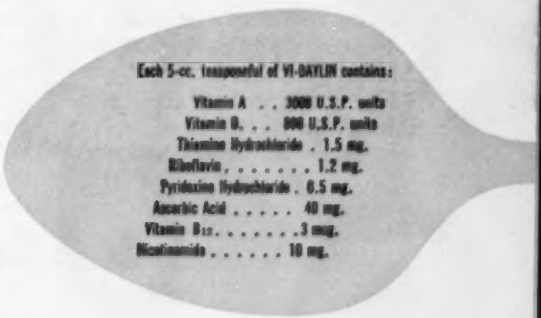

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Medical Forum

Discussion of articles published in MODERN MEDICINE *is always welcome. Address all communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Management of Acute Cholecystitis*

QUESTION: How soon should operation be done, if at all, for acute cholecystitis?

Comment invited from

E. LEE STROHL, M.D.
NATHAN A. WOMACK, M.D.
FREDERICK STEIGMANN, M.D.
DENVER M. VICKERS, M.D.
ROBERT M. ZOLLINGER, M.D.
FRANK GLENN, M.D.
ROBERT S. SPARKMAN, M.D.
WILLIAM D. HOLDEN, M.D.
JOHN RUSSELL TWISS, M.D.
H. ROBERT FREUND, M.D.

► TO THE EDITORS: The article by Drs. Frederick A. Coller and Elmer B. Miller is excellent.

The pathogenesis of acute cholecystitis, which consists of a series of events, should be emphasized:

• A stone impacted in the cystic duct is the usual causative factor in acute cholecystitis. Stones were present in 101, or 85%, of 118 patients at St. Luke's Hospital, Chicago.

• Obstruction of the cystic duct is followed by distention of the gallbladder by the continued secretion of mucus.

• The entrapped bile and mucus or the ball-valve action of stones produces an autolysis of the mucous membrane. A chemical cholecystitis develops secondary to the altered *p*H and the irritation caused by the bile salts.

• The blood supply may be impaired by swelling and edema.

• Gangrene and perforation may follow. Perforation occurred in about 25% of our patients with pathologically confirmed acute cholecystitis; 21.5% of our patients with perforations died.

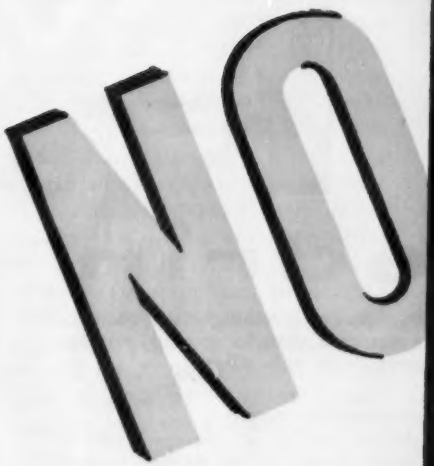
• Bacterial invasion occurs in less than one-half of patients after attacks of acute cholecystitis.

It is our policy to resort to surgery somewhat earlier than Drs. Coller and Miller. Possibly we have come to this decision because of the type of patient we see in a metropolitan voluntary hospital. At St. Luke's Hospital, acute cholecystitis is predominantly a disease of the older age groups. This group of patients proceeds to gangrene and perforation more rapidly than the younger group.

After the patient is thoroughly studied, the diagnosis of acute cholecystitis confirmed, and maximum preparation has been carried out, it is our policy to remove the gallbladder in most instances. It was done in 77.1% of our patients.

In the presence of excessive ede-

*MODERN MEDICINE, May 1, 1954, p. 107.



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ma and inflammation, and when bleeding is a disturbing feature, cholecystectomy should not be done. In such a situation, cholecystostomy is carried out. It was the operation of choice in 22.9% of our patients.

It is our opinion that cholecystectomy is the operation of choice in good risk patients in the early course of the disease. A number of perforations develop early in the attack; 47% of our series occurred within twelve to twenty-four hours after onset of symptoms. In the aged or poor risk patient in an advanced stage of the disease, cholecystostomy will release the obstruction and provide drainage. Definitive surgery can be done at a later date.

E. LEE STROHL, M.D.

Chicago

► TO THE EDITORS: The treatment of acute cholecystitis can best be rationalized when it is understood that the lesion is primarily one of acute cholecystic obstruction. When this obstruction is transient and the episodes of muscle spasm last only for a matter of minutes to a few hours, it is referred to as biliary colic.

In such instances, spontaneous decompression occurs and such decompression can often be helped pharmacologically by drugs that aid in producing relaxation of smooth muscle. Again, the blocking of the right thoracic sympathetic trunk at the levels of T8 and T9 will not only relieve pain instantly but also afford relief from the obstruction in many instances.

At times this closed loop obstruction progresses and secondary infection supervenes. Such an infection does not often occur before the first forty-eight hours, and its presence can generally be ascertained by the clinical picture of the patient. At such times surgical decompression in the form of cholecystostomy may be necessary.

Cholecystectomy should not be undertaken unless the common duct and its contiguous structures can be easily visualized and a dissection carefully done. Such a demonstration is often difficult because of edema and chronic passive congestion during the acute process. I have found, therefore, that, as a rule, cholecystectomy is not the procedure of choice if the obstruction has been present for over twenty-four hours. At such a time a nerve block is carried out and repeated if necessary. If the process rapidly subsides, and it generally does, surgery is recommended a month or so later. If the process does not subside, cholecystostomy is performed, and subsequent cholecystectomy is recommended if the symptoms persist.

NATHAN A. WOMACK, M.D.

Chapel Hill, N. C.

► TO THE EDITORS: The following is my procedure in cases of acute cholecystitis:

The patients are hospitalized and treated conservatively. They receive Demerol for pain, antispasmodics such as atropine or Pro-Banthine, and antibiotics, preferably tetracycline or Terramycin. Nausea and vomiting call for sufficient fluids

parenterally to keep the water and electrolyte balance within normal limits. Wangensteen suction is started if nausea and vomiting or retching is severe.

During the first twenty-four to forty-eight hours, changes in temperature, pulse rate, and local findings are noted. Rigidity in the right upper quadrant or a tender mass suggests a possible empyema of the gallbladder and surgical intervention; otherwise conservative management is continued.

During the observation period, the patient's hydration, electrolytes, liver function, blood cytology and serum, and urinary amylase are all determined. An electrocardiogram and scout film of the abdomen are made, the latter to elicit possible ileus or radiopaque stones. In women, the pelvic organs are checked. These tests help in ruling out other conditions which simulate acute cholecystitis.

One must particularly exclude acute myocarditis and acute pancreatitis, in which prompt surgery is harmful, and ruptured peptic ulcer and appendicitis, in which delay may do harm. Acute cholecystitis and acute pancreatitis may coexist, requiring even greater deliberation regarding surgery.

If the patient shows continuous improvement, he is discharged from the hospital to return two to four weeks later for a roentgen examination of the gallbladder. If the gallbladder visualizes well and no stones are seen, the patient is continued on medical treatment.

If symptoms improve but do not disappear completely, an operation is suggested and performed within a week or ten days.

Should jaundice occur during the attack of cholecystitis, it is important to determine if it is mainly due to an extrahepatic factor. If so, and if the jaundice is decreasing during the observation period, the patient is permitted to "cool off" and the operation is performed within the period mentioned above. If jaundice persists, the patient is explored earlier.

FREDERICK STEIGMANN, M.D.
Chicago

► TO THE EDITORS: The selection of cases of acute cholecystitis for operation and the selection of the time for that operation call forth to an outstanding degree the art of the surgeon, in addition to his science.

Acute cholecystitis does not often rupture as does acute appendicitis. An acute gallbladder condition certainly does not warrant removal in the middle of the night if, by waiting until morning, the surgeon can have the benefit of a rested, competent, "first-string" operative team and better preoperative care.

The time progression of the pathologic inflammatory process varies much more than in appendicitis or in acute tonsillitis. Induration and adherence of the walls of the gallbladder, which make surgery difficult, may be present after forty-eight hours, or after two weeks. So time limits for elective operation in the acute phase are inexact.

The general condition of the pa-

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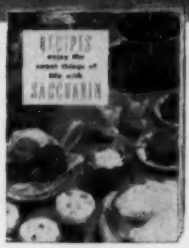

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tient, his age and cardiac compensation, the frequency of his attacks, and the acuteness of the disease should all play a great part in the decision.

A young, previously healthy individual with an acute attack may be operated upon quickly. Or, again, it may be wise to operate upon an older person who might not stand up well under prolonged illness but might do well with immediate operation, early ambulation, and early convalescence.

So, operate when the patient seems ready for it. Remove the acutely inflamed gallbladder when you can and obtain a brilliant result for which the patient will be grateful. But wait for the subacute or chronic phase if indications do not seem entirely correct, no matter how long it takes, and bring your patient through with less risk and an eventual good result.

DENVER M. VICKERS, M.D.
Cambridge, N. Y.

► TO THE EDITORS: While it is true that approximately 75% of patients with acute cholecystitis respond promptly to conservative management, the symptoms persist or worsen in the remaining 25% and early surgical intervention becomes mandatory. Since the future course of the individual patient is unpredictable, frequent reevaluation, both by bedside visits and by laboratory aids, is essential to determine the optimum time for surgery.

It has been our policy to evaluate the physical findings of the upper abdomen and check the pulse, temperature, and white count every four hours in all patients having acute cholecystitis until a decision has been reached regarding their progress and treatment. The possibility of gangrene or a perforation of the gallbladder should be considered if the white count exceeds 20,000 after fluid balance has been established. Recurrence of pain sufficient to require narcotics, an elevation in the temperature and white count after hydration, or a decreasing vital capacity calls for prompt surgery.

We are convinced that the mortality rate associated with acute cholecystitis will be lowered if more patients are operated upon at any time during the day or night if, after fluid balance is established, they do not show evidence of continued improvement. Approximately 25% of patients with acute cholecystitis, therefore, are operated upon at offschedule hours as a result of adherence to this principle.

Surgery is delayed in all patients who continue to show improvement under conservative management. However, cholecystectomy is usually performed in such patients within a week or ten days, rather than discharging them from the hospital to return at a later date for elective cholecystectomy. An exception to this general principle of early surgery would be made in the case of the elderly poor risk patient, associated proved pancreatitis, or in the presence of jaundice when exploration of the common duct is indicated.

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the fundus downward in order to avoid possible injury to the structure of the region of the common duct. Occasionally, in poor risk patients or when technical difficulties are encountered, cholecystostomy, followed by removal of the impacted stone and tube drainage, may be life-saving. It is the response of the patient to therapy rather than the duration of the disease which should dictate the time of surgical intervention.

ROBERT M. ZOLLINGER, M.D.
Columbus

► TO THE EDITORS: Acute cholecystitis constitutes a problem of varying importance and urgency, depending on whether it occurs, for example, as an early phase of biliary tract disease in a young woman recently pregnant, or as an episode in an elderly man or woman in the later stages of chronic biliary tract disease, or as a complication of a terminal systemic disease, or after some operative procedure unrelated to the biliary tract.

The postoperative morbidity of complications and the mortality rate are minimal and the complications of perforation and peritonitis are infrequent from acute cholecystitis in the young, recently pregnant woman. We believe that early operation is the best method for interrupting biliary tract disease.

For those in a slightly older age group, but still under 50, women who have not been pregnant and men, acute cholecystitis appears to be a somewhat more severe process. Complications under nonsurgical treatment are more likely to occur, but this group will tolerate operation quite well unless some systemic involvement such as cardiovascular disease, diabetes, or renal impairment exists.

A third group consists of those over 50, the majority with a long history of biliary tract disease. The older the patient and the longer the duration of biliary tract disease, the more common are the complications of acute cholecystitis if not treated by surgery. By and large, the older the patient, the more difficult it is to estimate the exact nature of the process—whether the wall of the gallbladder is gangrenous or whether perforation is impending—by physical examination, temperature, or white blood count. Furthermore, the incidence of common duct stone is greater in the older group. These patients are also more prone to postoperative complications that contribute to a higher mortality rate. Here again, early surgical treatment is the best protection for the patient.

In the last group are those patients who have acute cholecystitis as a complication of the terminal phase of a systemic disease, such as cardiovascular disease with a marked arteritis and arteriolitis. Whether operation is justified for such patients depends chiefly on their probable life expectancy.

Since this is extremely difficult to estimate, and since catastrophic perforation of the gallbladder with resulting bile peritonitis can be averted by cholecystostomy under local anesthesia, surgery seems indicated.

(Continued on page 164)

Still More Clinical Research Proving the Value of

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Vitamin D ..... 250 units

DOSAGE

One tablet after each meal and at bedtime; 0.6 cc. (10 drops) in water, milk, fruit or vegetable juice once daily for infants and children.

***Bibliography of 192 references available on request.**

1. Coles, B.L., and James, U.: The Effect of Cobalt and Iron Salts on the Anaemia of Prematurity, Arch. Disease in Childhood *29*:85 (1954).
2. Holly, R.G.: The Value of Iron Therapy in Pregnancy, Journal-Lancet *74*:211 (June) 1954.
3. Quilligan, J. J., Jr.: Effect of a Cobalt-Iron Mixture on the Anemia of Prematurity, Texas St. J. Med. *50*:294 (May) 1954.

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When acute cholecystitis develops as a complication after operation for conditions unrelated to the biliary tract, the problem is primarily one of diagnosis, and the type of surgical treatment depends upon the local process and the patient's general condition.

For the patient with an established diagnosis of acute cholecystitis, our policy provides for surgical treatment as soon as preoperative preparation has been adequate. The steps are deliberate; there is no undue haste and there is no neglect. The intent is to have the patient in as good a condition as possible before embarking upon operation. An evaluation of all systems is essential, for in the older age group, for example, a cardiac irregularity may require some time to control whereas simple correction of dehydration may be quickly accomplished. Diabetes, if present, should be controlled before beginning an operative procedure.

A group of 810 patients with acute cholecystitis treated surgically over a twenty-one-year period is reported; 718 of these were considered suitable for the definitive procedure of cholecystectomy. For 92 patients, the compromise procedure of cholecystostomy was done. In addition, exploration of the common duct was combined with cholecystectomy in 76 patients and with cholecystostomy in 2. The mortality rate for the series was 2.6%. For those less than 50 years of age, it was 1.1%, and for those 50 years and older, it was 4.3%.

FRANK GLENN, M.D.

New York City

► TO THE EDITORS: It is not reasonable to establish a fixed policy of operating upon all patients with acute cholecystitis; neither is it wise to elect to operate upon none of them. Cases should be individualized. Assuming that the patient has been prepared adequately, operation is generally advised except when the attack is subsiding.

The following factors favor operative treatment of acute cholecystitis:

- Fear of rupture with resultant complications such as peritonitis, abscess, cholecystenteric fistula, gallstone ileus, and so on. Probability of rupture in an acute attack is estimated at 5 to 10% by Fletcher and Ravdin.
- Possibility that prolongation of attack may force stones into the common duct
- Introduction or aggravation of infection in the biliary tract as a result of prolongation of attack.

The arguments against operative treatment of acute cholecystitis are as follows:

- Possibility of subsidence of the attack—a valid argument, if cases are selected accurately
- Technical difficulties in performance of cholecystectomy incident to the acute inflammatory process
- Technical difficulty of evaluation, exposure, and exploration of common duct
- Questionable diagnosis

The time factor—duration of attack in days—is of limited value in selection of cases for operation, since rate of progression of morbid changes varies so greatly. Data of Ross, Boggs, and Dunphy indicate that there is no arbitrary "critical period" during which surgery for acute cholecystitis should be avoided.

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Pyridoxine hydrochloride ..... 0.25 mg.
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fiable when [1] the attack is definitely subsiding, or [2] the diagnosis is questionable. Early surgery is justifiable when the gallbladder is palpable. Subsiding pain and rigidity with coincident palpable gallbladder may mean necrosis of the gallbladder wall. Although fever and leukocytosis may be absent in 20% of cases of acute cholecystitis, sharp elevations suggest severe infection or necrosis of the gallbladder and operation is warranted. Surgery should also be done when clinical manifestations are progressive or unremitting during a reasonable period of observation.

At surgery, the contents of the gallbladder are examined. If frank pus is present, drainage alone should be done for the initial procedure. If an acutely inflamed gallbladder contains no stone, a stone in the common duct must be suspected. Common duct drainage is performed when indicated, bearing in mind the relatively high incidence of common duct stones in association with acute cholecystitis.

Cholecystectomy is done when technical circumstances are favorable and the condition of the patient permits. If so-called "limited cholecystectomy" is performed, leaving a cystic pedicle, the introduction of a straight catheter into the cystic duct will provide more effective drainage than rubber dams and will afford a pathway for subsequent cholangiography.

Cholecystostomy is a lifesaving procedure in the critically ill but its greatest advantage is achieved when the decision to perform cholecystostomy only is made before the operation is ever begun. When such a decision is reached, local anesthesia and a short lateral incision will suffice.

ROBERT S. SPARKMAN, M.D.
Dallas

► TO THE EDITORS: The term "acute cholecystitis" is a clinical one that may actually represent empyema or hydrops of the gallbladder, acute bacterial cholecystitis, or biliary colic. Most patients to whom a diagnosis of acute cholecystitis is assigned have biliary colic, the result of a calculus impacted in either the ampulla of the gallbladder or the orifice of the cystic duct. All these pathologic processes for the most part will subside spontaneously with supportive treatment, with the exception of empyema of the gallbladder.

Early operation, which may consist of either cholecystectomy or cholecystostomy, should be undertaken when definite indications exist and after adequate evaluation of the patient. This should consist of a careful study for concomitant cardiac, pulmonary, or renal lesions, and abnormal metabolic processes such as diabetes mellitus or alkalosis. Dehydration should be corrected.

Definite indications after proper preoperative study and hydration consist of increased signs of peritoneal irritation, progressive enlargement and tenderness of the gallbladder, failure of colicky pain to subside, increasing leukocytosis, and failure of fever and pulse rate to diminish.

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1. McGavack, T. H.: The Thyroid, St. Louis, C. V. Mosby, 1951.
2. Hurxthal, L. M.: M. Clin. North America *32*:122 (Jan.) 1948.

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The choice of operation should depend upon the patient's general condition, the type of anesthesia that is permissible, and the amount of inflammation that has altered anatomic relationships in the neighborhood of the common duct, cystic duct, and hepatic artery. It is no slight to the surgeon's ability or reputation to perform a cholecystostomy when the danger of excessive bleeding or injury to the common or hepatic ducts would be increased by an attempted or completed cholecystectomy.

In the absence of definite indications for early operation, the pathologic process is subsiding and elective cholecystectomy can be performed under the best of circumstances.

Such a policy embracing both the emergency and definitive treatment of patients with acute cholecystitis should attain the minimum hazard of the surgical treatment for the various pathologic processes which in general today are included in the term acute cholecystitis.

WILLIAM D. HOLDEN, M.D.
Cleveland

► TO THE EDITORS: Operation for acute cholecystitis should be done as soon as preparation of the patient is adequate.

The reason for this is that pathologic changes are associated with acute cholecystitis, which is almost invariably an acute exacerbation of a chronic cholecystitis with stones.

Chronic cholecystitis is a progressive inflammatory disease which originates in the gallbladder, is usually associated with stone formation, and gradually extends, resulting in pathologic changes of the bile ducts, lymph nodes, pancreas, and, eventually, the liver. The duration of the disease may be surmised by Alvarez' finding that there was an average interval of nineteen years between the onset of symptoms and the establishment of the diagnosis of gallbladder disease.

Acute cholecystitis may supervene at any time during this period, usually as the result of inflammation or infection secondary to cystic duct obstruction. The usual pathologic changes found at operation include evidence of inflammation, stones, and edema and abscess formations, occasionally accompanied by empyema, gangrene, perforation, and peritonitis.

Because of these advanced pathologic changes which are invariably present, only early and complete removal of the gallbladder will prevent the serious consequences and complications of advanced gallbladder disease. Delayed operation is attended by an increased operative mortality, a higher incidence of gangrene, perforation, and peritonitis, longer periods of hospitalization, and subsequent disability.

Clinically, preparation for operation should include prompt hospitalization and correction of fluid and electrolyte imbalance by intravenous fluids, with the use of vitamin K and transfusions, if necessary. Among those critically ill, poor operative risks may be detected by chemical blood tests showing nitrogen retention or impending liver failure, as shown by a high

visceral eutonic

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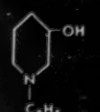

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degree of bromsulphalein retention or low values for cholesterol and cholesterol esters.

Most patients, even the elderly, withstand cholecystectomy well in the absence of liver or cardiac failure, if the best of surgical nursing and anesthetic services are available. It is furthermore worthy of note that the elderly patient with the most advanced of pathologic changes may have a normal temperature, pulse rate, and blood count.

The risk of operation in the elderly should not be minimized, however, because of the high incidence of associated coronary disease. This is particularly true in obese and diabetic patients. Operative risk is also greatly increased by jaundice, which demands a comprehensive investigation as to the etiologic factor.

While cholecystectomy is the operation of choice, cholecystostomy may be necessary as a lifesaving measure for those critically ill. After cholecystostomy, reoperation is necessary in many cases, usually because of recurrent stones or inflammation. Reoperation has resulted in a much higher mortality than that of an initial cholecystectomy.

JOHN RUSSELL TWISS, M.D.
New York City

► TO THE EDITORS: The question of how soon operation should be performed for acute cholecystitis remains open for discussion largely because it is difficult to prove whether the patient is better off with an early or a late operation. Inasmuch as there is a previous history of gallbladder disease in about 70% of patients suffering an acute attack, the condition may be prevented in a majority of cases if cholecystectomy is performed before acute symptoms intervene.

At King's County Hospital, Brooklyn, a study of 140 patients, most of whom were treated conservatively without operation, reveals that after the onset of acute cholecystitis it was not possible to demonstrate that the mortality would have been significantly improved had all patients been subjected to operation shortly after admission. However, it is undoubtedly true that the morbidity of the disease is altered favorably by early operation and in many cases a prolonged illness and a second hospitalization for surgery may be avoided by prompt operative intervention after suitable preparation of the patient. Early surgery must be done expertly, as injuries to the common bile duct are much too frequent in the face of the edema and inflammation of the acute attack.

The inflammatory process may require many months to subside in some cases and, therefore, a delay of one or two months may not be sufficient to insure that the operation will be technically easy.

The optimum time for surgery depends to a great degree on the experience and judgment of the individual surgeon. No hard and fast rule will cover all cases.

H. ROBERT FREUND, M.D.
Brooklyn

Diagnostix

Here are diagnostic challenges presented as they confront the consultant from the first clue to the pathologic report. Diagnosis from the Clue requires unusual acumen and luck; from Part II, perspicacity; from Part III, discernment.

Case MM-270

THE CLUE

ATTENDING M.D: An interesting patient was transferred yesterday from another hospital. She died just an hour ago and an autopsy is being performed. Shall we go down and look?

VISITING M.D: Yes, of course. What was the clinical diagnosis?

ATTENDING M.D: Progressive paralysis of the Landry type.

VISITING M.D: Brief me on the history while we walk.

ATTENDING M.D: The patient was a 46-year-old woman who had been operated on at another hospital after a diagnosis of endometriosis. A subtotal hysterectomy with bilateral salpingo-oophorectomy was performed. Chocolate cysts of the ovaries with some adhesions between the posterior wall of the uterus and the intestine were found. There was no biopsy or pathologist's report, but the surgeon told her that she had endometriosis. She did well for the next fifteen days, then complained of malaise and weakness. The physical examination showed nothing unusual. Two days later the patient had numbness of the thighs and buttocks and mental dullness. Her bladder was distended to the umbilicus. There was extreme weakness of the legs which, in the following week, spread to the arms and the face.

VISITING M.D: What drug treatment was given?

ATTENDING M.D: Barbitals, sulfadiazine, and penicillin.

VISITING M.D: Any really significant laboratory findings?

ATTENDING M.D: No. It was an instance of fulminating ascending paralysis coming on about two weeks after surgery, with death in ten days.

PART II

PATHOLOGIST: *(The autopsy room is crowded with doctors and students. The pathologist is summarizing the history as he works.)* The patient first consulted her

physician because of amenorrhea for two months. Her periods had been painful for two years. The past history was not remarkable. A mass the size of an eighteen-week pregnant uterus was felt, but results of pregnancy tests were negative. She was doing well postoperatively, but required phenobarbital during the day and Seconal at night. She had penicillin for the first three postoperative days. A slight fever developed and she was given sulfadiazine, a total of 30 gm. over four days.

CONSULTANT: What was the cause of the fever?

PATHOLOGIST: A bladder infection, supposedly. Urine culture later showed *Streptococcus faecalis.* Our neurologist is here to present his findings.

NEUROLOGIST: I saw her for the first time yesterday and once this morning before death. But she had had careful neurologic examinations elsewhere during the terminal illness, which began with weakness of the legs and loss of deep leg and abdominal reflexes. Two days later there was total paralysis of the legs and weakness of the arms. The plantar responses were flexor. Lumbar puncture revealed normal pressure; the fluid contained no cells and the globulin was normal. Two days later all reflexes were missing and the arms were partially paralyzed. The roentgen studies revealed paradoxic diaphragmatic movements. Yesterday the patient's speech was slurred and she could not answer questions coherently. The pupils did not react to accommodation. There was an ill defined anesthesia over both legs, and lower facial paralysis. It is the so-called Landry's ascending paralysis.

VISITING M.D: *(Whispering to Attending M.D.)* I wonder what else?

PART III

PATHOLOGIST: *(Describing gross pathology)* There is a curious purple-brown color of the heart muscle; some black pigmentation is scattered over the peritoneum. I find pulmonary edema; and the bronchi are full of mucus. The brain and spinal cord appear edematous and there is a definite pressure cone. This is an interesting case for our Clinical Pathologic Conference next Wednesday. *(Turns to Visiting M.D.)* Will you present the case from a clinical standpoint?

VISITING M.D: Yes, of course.

ATTENDING M.D: *(Quietly)* See what you got into?

VISITING M.D: *(Aside)* I've got a hunch. Let's go to the patient's room.

ATTENDING M.D: What? All right.

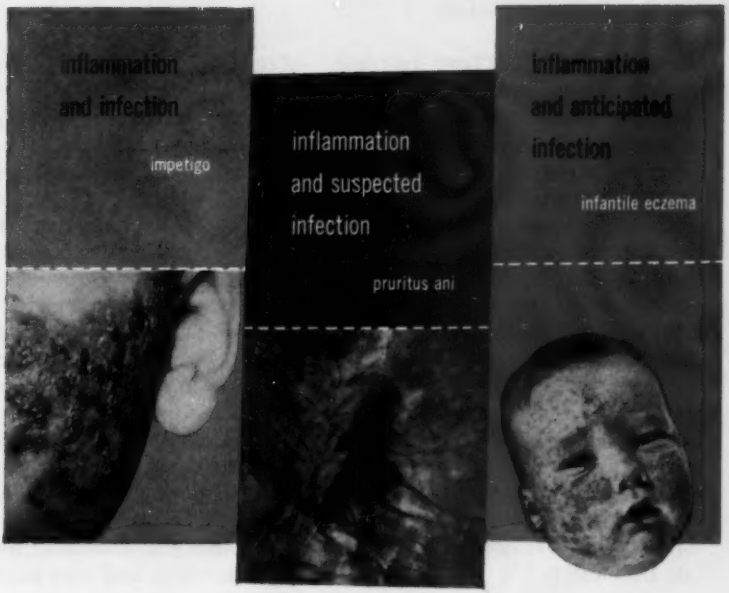
VISITING M.D: *(The room is empty. The Visiting M.D. finds nothing of interest.)* What laboratory tests were done this morning?

ATTENDING M.D: Nothing special.

VISITING M.D: Urinalysis?

ATTENDING M.D: Oh, yes, that was routine.

VISITING M.D: Fine, let's go to the laboratory and see what they found.



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LABORATORY TECHNICIAN: *(A few minutes later)* Urinalysis revealed a few bacteria, some pus cells, a trace of albumin, and normal specific gravity.

ATTENDING M.D: *(To Visiting M.D.)* I'd like to know what you are up to.

VISITING M.D: Is there any urine left?

TECHNICIAN: Yes, the remains of a twenty-four-hour specimen.

VISITING M.D: *(Sits and writes out orders for further urine tests.)*

PART IV

VISITING M.D: Do you have any evidence you have left out—say about a vaginal flow or discharge or skin lesions?

ATTENDING M.D: No. Oh, she is said to have had a brownish vaginal discharge. Say, what did you order on the urine?

VISITING M.D: *(Side-stepping)* We have a case of a seemingly unrelated fatal illness developing. There was no history of drug sensitivity, I presume.

ATTENDING M.D: Correct.

VISITING M.D: She had abdominal pains and neurologic symptoms. Did you note that the urine standing in the laboratory was dark?

ATTENDING M.D: Oh.

VISITING M.D: *(Next Wednesday in the midst of the presentation)* . . . and the urine had darkened on standing, and even more so on

heating. I had Waldenström's test for porphobilinogen done, and it was strongly positive—total porphyrin, 25 mg. per liter. The porphyrins were mainly ether-insoluble—that is the uroporphyrins—but there was insufficient material for further indentification . . .

PATHOLOGIST: This is a remarkable finding. This might have been an undiagnosed case. I am inclined to think his evidence meager. I don't remember any history of abdominal pain, for instance.

VISITING M.D: It was one of the presenting symptoms.

PATHOLOGIST: But it preceded the onset of the acute idiopathic porphyria.

VISITING M.D: Yes. Perhaps it was idiopathic. It began before the sulfadiazine but not previous to the barbiturates. Patients who do badly after surgery and are given barbiturates sometimes have porphyria. But we can't settle this for sure in this case.

PATHOLOGIST: Only by constant awareness in the wards and in the laboratory will we find these cases. They are more common than is generally believed. The Landry type of paralysis is known to occur in acute porphyria. Microscopic findings here are like those in other cases in the literature, but I did not put it together until I heard our consultant today.

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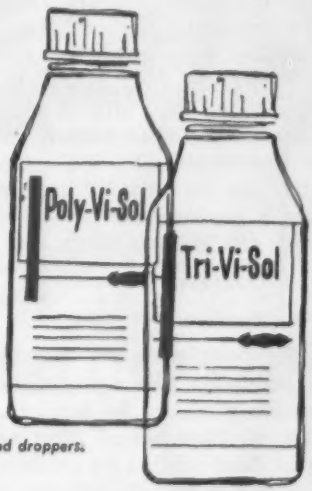

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SHORT REPORTS FROM ABROAD

SWITZERLAND

Postpartum Sterilization. A small incision along the lower circumference of the umbilicus facilitates postpartum sterilization, according to Dr. H. Sauter of the University of Zürich. Because of little subcutaneous fat in the area, only a small incision is necessary.

The fascial plane is divided longitudinally in the linea alba. The incision is easily extended to the midline if necessary. The tubes are visualized first and dissected.

The procedure can be done in fifteen minutes and may be performed under local or light general anesthesia.

The tough linea alba in the area assures good scar formation, operative trauma is slight, and cosmetic results are excellent. Early ambulation is possible.

Schweiz. med. Wchnschr. 84:325, 1954.

SWITZERLAND

Erythrocyte Resistance. Red blood cell resistance may increase during jaundice produced by hepatitis.

Dr. A. Pletscher of the University of Basel studied the erythrocyte resistance to osmotic pressure in 70 patients. Saponin resistance was observed in 69 and mechanical resistance in 59.

Increased resistance of red cells to one or more of the test methods was apparent in 64 of the patients. The highest incidence of resistance, 73%, was found in the saponin test; osmotic and mechanical resistance were increased in only 54%. The increased saponin resistance is apparently a result of a change in plasma factors; the increased osmotic resistance can be attributed to platycytosis.

Schweiz. med. Wchnschr. 83:1229-1233, 1953.

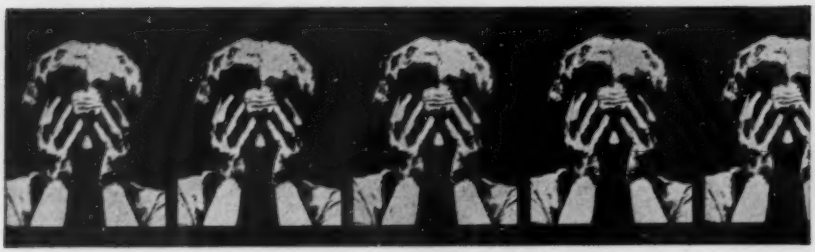
DUTCH GUIANA

Menstrual Disturbances. Histoplasma-like inclusion bodies may be found in the histopathologic material from curettage of patients with menstrual disturbances, suggesting a benign form of histoplasmosis.

Dr. W. E. F. Winckel and associates of the Government Hospital, Paramaribo, examined 30 women who had menorrhagia, metrorrhagia, and dysmenorrhea; 31 curettages were performed and the material examined microscopically by direct smear and after inoculation of laboratory animals. Histoplasma-like inclusion bodies were revealed in 22 cases. Results were doubtful in 2 and negative in 7. Another 13 curettages showed inclusion bodies in 8 cases.

Docum. med. geog. et trop. 5:215-219, 1953.

for the cramps, pain and depression of dysmenorrhea



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Janney, J. C.: Medical Gynecology, ed. 2, Philadelphia, 1950, p. 365.

'Edrisal' relieves pain

" 'Edrisal' was more effective than any other analgesic previously used . . ."

Wells, R. L.: M. Ann. District of Columbia 20:360.

'Edrisal' relieves depression

"Mental depression was always relieved."

Hindes, H. J.: Indust. Med. 15:262.

Each 'Edrisal' tablet contains: 'Benzedrine' Sulfate (racemic amphetamine sulfate, S.K.F.), 2½ mg.; acetylsalicylic acid, 2½ gr. (0.16 Gm.); and phenacetin, 2½ gr. (0.16 Gm.).

Recommended dose: 2 tablets

Smith, Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off.
†T.M. Reg. U.S. Pat. Off. for racemic amphetamine sulfate, S.K.F.

GERMANY

Cobalt Uptake. Experiments in rats reveal that radioactive cobalt is rapidly excreted by young animals and that old animals still retain 34% of the dose when activity is no longer detectable in the young group. Drs. H. Ludes, P. Endler, and C. Almaraz of the University of Cologne observe a similar delayed excretion from organs in which the blood supply was compromised by mechanical trauma.

Ztschr. f. Altersforsch. 8:31-35, 1954.

GERMANY

Gastric Roentgenograms. Use of hard rays for roentgenographic examination of the stomach allows subsequent enlargement of the film with resultant improvement in the visualization of details.

Dr. Kurt Freye of Berlin states that the use of a special x-ray tube permits an exposure time of 0.1 to 0.2 seconds and enables good visualization of the gastric mucosa even in poorly exposed parts.

The method is of special value for early diagnosis of cancerous and precancerous lesions of the stomach.

Fortschr. Geb. Röntgenstrahlen 79:345-353, 1953.

GERMANY

Positive Nelson Tests. Important morphologic changes in the bacterial organism can be observed in positive Nelson *Treponema* immobilization tests, finds Dr. A. Greifelt of the University of Würzburg after microscopic electron studies

(Continued on page 186)

therapeutic advance

At last, the many advantages of intramuscular administration of a broad-spectrum antibiotic have been fully realized. ACHROMYCIN, since its recent introduction, has been notably effective in oral and intravenous dosage forms. Now, after clinical testing, it is definitely proved highly acceptable for intramuscular use.

INTRAMUSCULAR

IMMEDIATE absorption and diffusion
PROMPT CONTROL of infection
CONVENIENT for the physician
NO UNDUE DISCOMFORT for the patient.

This new intramuscular form widely increases the usefulness of ACHROMYCIN, the broad-spectrum antibiotic of choice.

ACHROMYCIN Intramuscular is available in vials of 100 mg.

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LEDERLE LABORATORIES DIVISION
AMERICAN Cyanamid COMPANY Pearl River, New York

of 200 positive Nelson tests. *Treponema* are immobilized and swollen, and several waves are missing or only barely perceptible. Occasionally, continuity of the cellular membrane is interrupted, and the protoplasm is disorganized and protruding from the treponemal body.

Irregular condensation of the protoplasm within the intact membrane is also frequent. Changes appear a few hours after immobilization and can be grossly diagnosed even on routine darkfield examination.

Dermatologische Wchnschr. 129:181-184, 1954.

CUBA

ACTH for Hyperemesis Gravidarum. Pernicious vomiting of pregnancy may be a manifestation of the general adaptation syndrome, according to Dr. B. Benach Carreras of the Municipal Maternity Hospital, Havana. This etiology explains the success obtained with ACTH for treatment of the condition.

Nausea and vomiting ceased entirely in each of the 15 patients given ACTH as the sole therapeutic measure; 3 had not benefited from other forms of treatment. Vomiting did not recur. Blood pressures and serum electrolytes remained normal, and the patients all delivered healthy infants at term.

Thorn tests for adrenal insufficiency were made for 8 of the patients, but the results were inconclusive.

Obst. & Gynec. 3:50-52, 1954.

FRANCE

Fatigue Syndrome. In an effort to determine the relationship between adrenal cortical activity and muscular fatigue in healthy persons, Drs. R. Rivoire, J. Rivoire, and J. Poujol of Nice measured the urinary excretion of corticoid substances before and after graded exercise.

Strenuous exercise caused a drop in the urinary secretion of 17-ketosteroids in persons not in training. The extent of decrease was roughly proportional to the sensation of fatigue. Excretory levels do not return to normal until nine hours after exercise. The decrease occurs later and is usually preceded by a hyperexcretory stage in persons who are in training. Apparently, during exercise, cortical steroids are utilized in the muscle and fatigability depends on the amount of steroids available.

Once the corticoid used has been properly identified, a supplemental administration of the agent during periods of muscular stress may be possible.

Presse méd. 61:1431-1433, 1953.

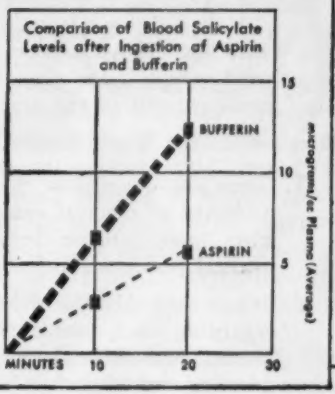
FRANCE

Tuberculosis and Heart Disease. Pulmonary tuberculosis is much more likely to occur in patients with congenital malformations of the heart and great vessels than in persons without such anomalies. The tuberculous process in these patients is also more severe. Dr. P. Soulié and associates report that 30 of 700 patients with congenital

Faster Pain Relief with BUFFERIN®

1 ACTS TWICE AS FAST AS ASPIRIN

The antacids in Bufferin speed its pain-relieving ingredients through the stomach and into the blood stream. Actual chemical determinations show that within ten minutes after Bufferin is ingested blood salicylate levels are higher than those attained by aspirin in twice this time.[1]



2 DOES NOT UPSET THE STOMACH

Bufferin's antacid ingredients protect the stomach against aspirin irritation. This has been clinically demonstrated on hundreds of patients.

In usual doses

In a series of 238 cases, 22 had a history of gastric distress due to aspirin but only one reported any distress after taking 2 Bufferin tablets (equivalent to 10 grains of aspirin).[2]

In large doses

In a recent study group, 1006 patients received, over a 24 hour period, 12 Bufferin tablets (equivalent to 60 grains of aspirin). Although 72 had a history of being sensitive to aspirin, only 18 reported any gastric side-effect with Bufferin.[2]

1. Effect of Buffering Agents on Absorption of Acetylsalicylic Acid. J. Am. Pharm. Assoc., Sc. Ed. 39:21, Jan. 1950

2. Gastric Tolerance for Aspirin and Buffered Aspirin. Ind. Med. 20:480, Oct. 1951

AVAILABLE in vials of 12 and 36 tablets and in bottles of 100. Tablets scored for divided dosages.

INDICATIONS: Simple headaches, neuralgias, dysmenorrhea, muscular aches and pains, discomfort of colds and minor injuries. Particularly useful when gastric hyperacidity is a complication. Useful for relieving pain in the treatment of arthritis.

EACH BUFFERIN TABLET contains 5 grains of acetylsalicylic acid, together with optimum amounts of the antacids aluminum glycinate and magnesium carbonate.

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heart disease had pulmonary tuberculosis, the highest incidence being in patients with decreased pulmonary blood flow.

Surgical correction is advisable to increase arterialization of the pulmonary circulation. When pulmonary tuberculosis is associated with patent ductus arteriosus, however, surgery should be withheld while the infection is active.

Arch. mal. coeur 46:1049, 1953.

FRANCE

Prefrontal Tract Disruption. The injection of small quantities of fluid into the white matter of the frontal lobe is preferable to prefrontal lobotomy for management of pain from terminal gastrointestinal cancer, find Dr. R. Cattan and associates of St. Anthony Hospital, Paris. The area to be injected must be precisely defined by roentgenograms and the use of a sighting device. The procedure it also employed for relief of treatment-resistant cases of hemorrhagic colitis, bleeding ulcers, and related conditions. Healing of lesions after use of the method is rapid, presumably because of changes in the autonomic centers of the hypothalamus as a result of cessation of prefrontal impulses.

No significant personality changes were attributable to the intervention.

Arch. mal. app. digest. 43:137-158, 1954.

FRANCE

Antabuse and Alcoholism. Cardiovascular alterations suggestive of transitory myocardial insufficiency can be observed during the crisis after alcohol ingestion in patients treated with Antabuse.

Drs. J.-L. Néel, P. Sizaret, and F. Salomon of the Psychiatric Hospital, Tours, studied 17 healthy adult alcoholic patients between 32 and 62 years of age before, during, and after Antabuse reactions to alcohol; 10 of the subjects manifested pronounced clinical and electrocardiographic changes. Flattening or inversion of the T wave, depression of the S-T segment, and ventricular extrasystoles were frequent. The electrocardiographic alterations usually paralleled the intensity of the fall in blood pressure and tachycardia that occurred during the crisis.

Arch. d. mal. du coeur 46:1131-1137, 1953.

FRANCE

Nongonococcic Urethritis in Men. About 24% of patients with urethritis do not have gonorrhea, according to Dr. P. Durel and associates of the University of Paris after a study of more than 1,600 patients.

Etiologic factors in nongonococcic urethritides are multiple; the most often seen are *Trichomonas vaginalis, Chlamydozoa oculogenitale,* and the microorganisms of the pleuropneumonia group. A typical Reiter's syndrome was seen in 20 patients; several subjects had symptoms ascribed to gonophobia only, the urethral discharges being sterile and the irritative reaction slight.

Broad-spectrum antibiotics may be employed successfully for urethritis caused by *C. oculogenitale* and the pleuropneumonia group. *T. vaginalis* infections are usually resistant to treatment; recurrences are frequent. Gonophobia urethritis responds well to sedation and psychotherapy.

Bull. Acad. nat. méd. 138:65-70, 1954.

FRANCE

Action of Vitamin D_2. When used for tuberculous skin lesions, psoriasis, and other dermatoses, vitamin D_2 may imitate the action of cortisone or ACTH.

Drs. Claude Huriez, Herbert Tuchmann, and Claude Ponte of Lille report that rats receiving vitamin D_2 have enlarged adrenals with histologic signs of increased activity of the cortex, enlargement of the islands of Langerhans, and an increase in the liver reticuloendothelium.

Presse méd. 62:218, 1954.

FRANCE

Leuko-Agglutinins in Leukopenia. Antileukocytic substances detectable in some idiopathic leukopenias may exert the same influence on white blood cells that autoantibodies of hemolytic anemia do on the erythrocytes.

Dr. J. Dausset and associates of the National Center for Blood Transfusion, Paris, observed 6 patients with leukopenia or agranulocytosis whose sera had pronounced

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(Multiple Vitamin Drops, Lilly)

- **complete**
- **flavorful**
- **potent**
- **stable**

FORMULA—PREPARED AS DIRECTED, EACH 0.6 CC. CONTAINS:

Thiamin Chloride	1 mg.
Riboflavin	1 mg.
Pyridoxine Hydrochloride	0.5 mg.
Pantothenic Acid (as Sodium Pantothenate)	3 mg.
Nicotinamide	10 mg.
Ascorbic Acid	75 mg.
Vitamin B_{12} (Activity Equivalent)	3 mcg.
Vitamin A Synthetic	5,000 U.S.P. units
Vitamin D Synthetic	1,000 U.S.P. units

DOSAGE—Infants under six months, 0.3 cc. daily.
Older than six months, 0.6 cc. daily.

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antileukocytic activity. Leuko-agglutinins were demonstrated by adding the patients' sera to a suspension of leukocytes obtained from healthy subjects. The sera of all 6 patients gave a strongly positive agglutination.

To test the validity of the leuko-agglutination phenomenon, the sera of 800 healthy and 300 hospitalized individuals were tested; only negative results were obtained.

Testing of antileukocytic activity of the sera of leukopenic patients may help to differentiate between the decreased formation and the increased destruction of leukocytes.

Rev. hémat. 8:316-337, 1953.

BRAZIL

Operation for Varicocele. In the rare case when surgery is required, dilated spermatic veins are safely controlled by insertion under pleats in the external oblique aponeurosis.

Dr. Eurico Branco Ribeiro of the Sanatório São Lucas, São Paulo, makes an incision from the pubic to the anterosuperior iliac spine and then exteriorizes the cord. The fibrosa and cremaster are incised, and the vas deferens is separated from the cord up to the external inguinal orifice, without isolating the artery.

Veins are looped on the aponeurosis so that the upper pole of testis lies slightly below the pubic spine. Tissue is folded over the plexus and stitched to form a tunnel. Vessels within slide freely, but stasis is prevented by intermittent compression during muscular activity.

CZECHOSLOVAKIA

Therapy for Hypogalactia. Radiation of the breasts with red light has proved an inexpensive method of increasing the production and secretion of milk in patients with hypogalactia.

Dr. Vendelín Cunderlík of the University of Kosice radiates each breast for twenty to thirty minutes daily from the third to seventh day after delivery. Ultrared rays are absorbed by the deep layers of skin, thus producing heat energy in the tissue. Subpapillar capillaries dilate, blood and lymph circulation is improved, and the chemicophysical reaction of the subcutaneous tissue is activated.

Painful breast engorgement is also relieved by employment of the procedure.

Gynaecologia 137:192-197, 1954.

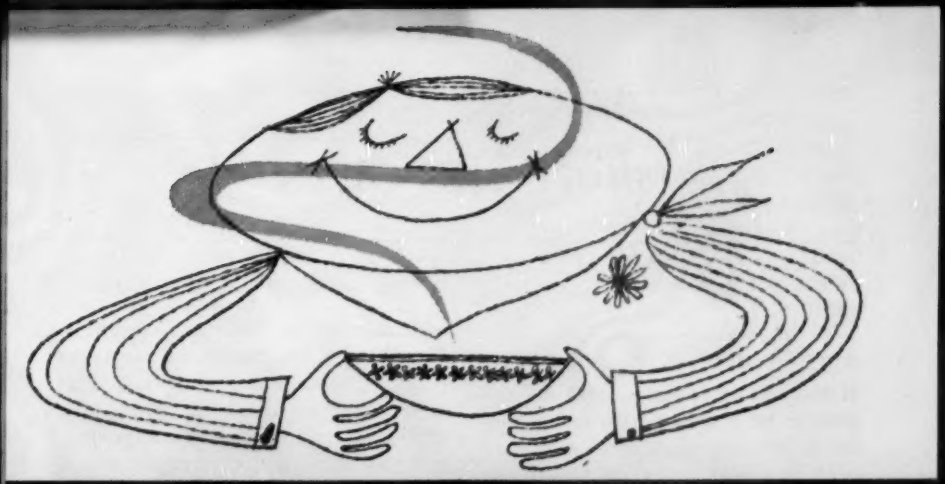
AUSTRIA

Prolonged Anticoagulant Therapy. The danger of embolism in patients with rheumatic heart disease and auricular thrombosis is reduced by long-term therapy with Tromexan.

Drs. R. Laveran-Stierbar and E. Meyer of Vienna observed 19 patients who were maintained at 20% prothrombin levels with small doses of Tromexan for sixteen weeks to two years. In spite of persistent auricular fibrillation, no embolism occurred.

No serious side effects were noted.

Wien. med. Wchnschr. 103:678-680, 1953.



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short REPORTS

Cytology

Anemia and Cancer

Hemolysis of red cells does not appear to be a major pathogenic factor in anemia associated with cancer. Survival times of transfused erythrocytes, fecal urobilinogen excretion, and mechanical and osmotic fragility of red cells were normal in 14 anemic patients with advanced epithelial carcinoma, report Drs. Shu Chu Shen and U. Jonsson of Tufts College, Boston, and the Holy Ghost Hospital, Cambridge, Mass. The patients had no symptoms of blood loss. As indicated by the Ashby technic, patients with chronic lymphocytic leukemia or lymphoma also showed normal survival of transfused erythrocytes. However, the survival time of red cells was shortened in patients with myeloid leukemia or metaplasia. Severe anemia in some cases of myeloid leukemia may be associated with increased red cell destruction and impaired hematopoiesis.

Proc. Am. A. Cancer Research 1:44, 1954.

Therapy

Agent for Hodgkin's Disease

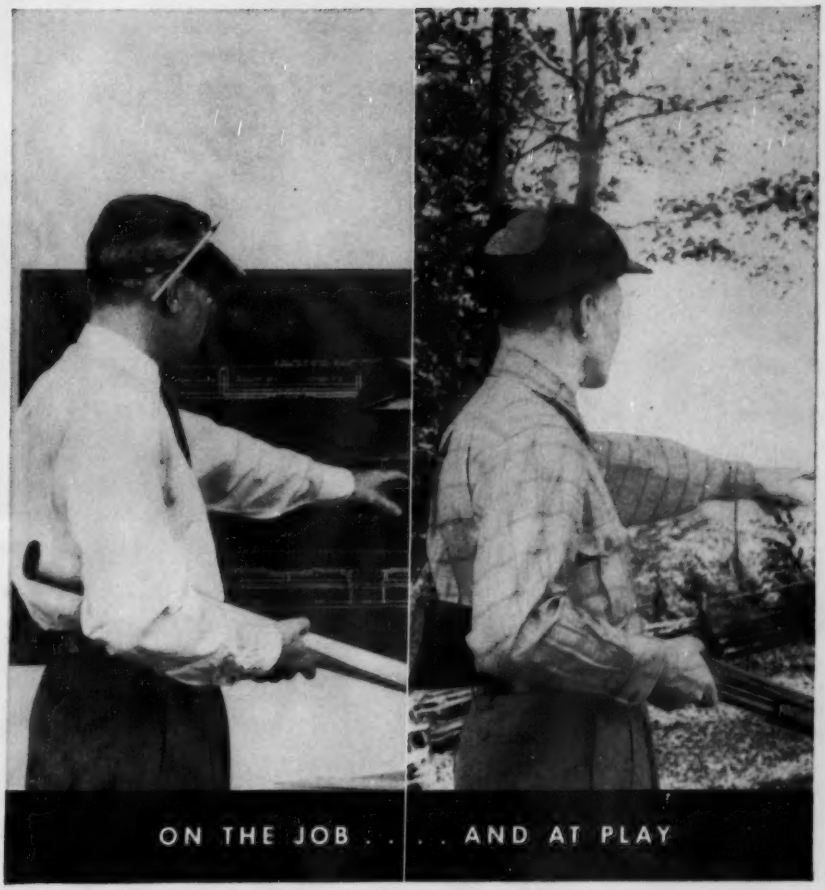
Phenylbutazone (Butazolidin) effectively relieves pain and controls fever with Hodgkin's disease. The drug was administered in 200-mg. tablets to 35 patients for up to four months, report Dr. A. Rottino and associates of St. Vincent's Hospital, New York City. Preliminary dosage of 2 or 3 tablets daily was increased to as many as 6 daily according to individual needs. Narcotics, roentgen ray therapy, or nitrogen mustard for pain relief was usually obviated, and fever associated with the advanced disease was reduced in most cases. Benefits such as increased appetite, weight gain, loss of fatigue, relief of pruritis, and decrease in lymphadenopathy occurred in some patients. However, extent or progression of the disease was unaltered. No toxic effects upon the bone marrow or liver resulted from phenylbutazone therapy. The drug may initiate partial remissions when used in conjunction with other chemotherapeutic agents and roentgen ray therapy.

Arch. Int. Med. 93:561-570, 1954.

Education

Postgraduate Study

Courses in clinical medicine of a few days to several months will be given by Mount Sinai Hospital in affiliation with Columbia University, New York City, from September 1954 through June 1955. Information can be obtained from the Registrar for Postgraduate Medical Instruction, Mount Sinai Hospital, 11 East 100th St., New York City 29.



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Unitensen is recommended for the patient who needs more than tranquilizing effects. It produces positive, sustained falls in blood pressure.

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Summary of Case Histories-Series A*

Age—Sex	BP—mm. Hg. BEFORE	BP—mm. Hg. AFTER
64—M	190/115	140/90
37—M	200/130	130/85
48—M	230/140	140/100
48—M	220/140	160/110
41—M	210/140	155/110
43—M	200/120	160/110
26—M	230/130	180/120
44—M	220/130	175/120
46—M	220/120	162/90

These patients experienced sustained control of blood pressure levels over prolonged periods of time.

(Write for complete clinical data, including case histories.)

*Personal communication to Irwin, Neisler & Company.

FIRST IN MAINTAINING DECISIVE BLOOD PRESSURE CONTROL

The sole therapeutic agent in Unitensen Tablets is cryptenamine —a potent blood pressure lowering alkaloid fraction isolated by the research staff of Irwin, Neisler & Company. In the majority of cases (see chart at left), cryptenamine will lower blood pressure decisively, and will control blood pressure at the lower levels for prolonged periods of time.

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Unitensen Tablets exert a central action on the blood pressure lowering mechanism. Circulatory equilibrium is not disrupted. Improved circulation and improved work of the heart are often attained, *along with the decisive fall in blood pressure.*

Unitensen Tablets have no sympatholytic or parasympatholytic action. Ganglionic blocking does not occur. Unitensen Tablets *do not* cause postural hypotension and collapse, an ever-present risk with other potent blood pressure lowering drugs. Renal function is *not* impaired.

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FIRST WITH DUAL ASSAY

Unitensen is biologically standardized twice, first for hypotensive response and, second, for side effects (emesis) in the dog so that a safe therapeutic range between the two is assured. In extensive clinical trials only a few isolated cases exhibited occasional vomiting.

Unitensen Tablets do not cause the serious side effects common to widely used synthetic hypotensives. Unitensen Tablets can be given over long periods of time with entire dependability. Cumulative effects have not been noted.

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Start with 2 tablets daily, given immediately after breakfast and at bedtime. If more tablets are needed, include an afternoon dose at 1 or 2 p.m.

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Because of lower dosage, Unitensen Tablets save your patients ⅓ to ½ over the cost of other potent blood pressure lowering agents.

Each Unitensen Tablet contains: Cryptenamine*..... 2 mg.†
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*Ester alkaloids of Veratrum viride obtained by an exclusive Irwin-Neisler nonaqueous extraction process. †Equivalent to 260 Carotid Sinus Reflex Units.

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Nephrology

Human Kidney Transplants

Homologous transplantation of a kidney to a woman with chronic uremia appears to have enabled the patient to survive in good health. The donor kidney, removed immediately after death of a young patient, was irrigated with heparin and Ringer's solution until the effluent was cleared of cells and protein, report Drs. Gordon Murray and Richard Holden of Toronto. Within two and one-half hours after removal from the donor, the kidney vasculature was anastomosed to the external iliac vessels of the host and the ureter transplanted through the bladder wall. During the past fifteen months blood pressure has lowered, persistent edema has disappeared, and normal urine chemistry has been maintained. Homologous renal transplants in 3 other patients with nephritis seemed to function, but the patients died.

Am. J. Surg. 87:508-515, 1954.

Ophthalmology

Oxygenation of Retina

Abnormal electroretinographic findings are usually obtained in patients with hypertension or arteriosclerosis, even though ophthalmologic examination is normal. Most of 15 patients with hypertension had supernormal responses, whereas 15 patients with arteriosclerosis had subnormal or normal b-potentials. Drs. Harold E. Henkes and J. P. van der Kam of Rotterdam, Holland, suggest that the hypertensive supernormal responses reflect irritability of the retinal neurones as a result of metabolic deficiencies. Subnormal responses of arteriosclerotic patients appear to reflect retinal oxygen insufficiency. Prolonged rest in the dark before electroretinographic procedures appears to improve retinal oxygenation of arteriosclerotic individuals so that the subnormal b-potentials revert to normal.

Angiology 5:49-58, 1954.

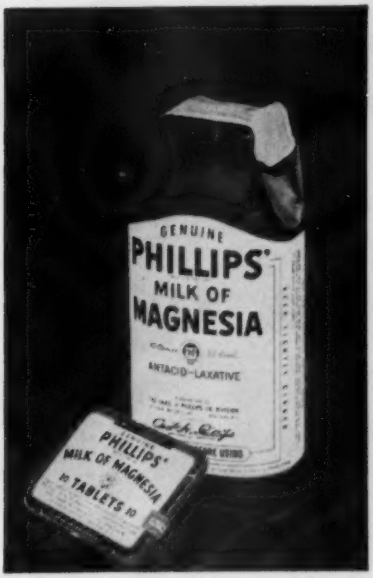
Dermatology

Carcinogen Susceptibility

Skin change resulting from application of carcinogenic compounds may provide a rapid means for estimating species susceptibility. Loss of hair, suppression of sebaceous glands, and enlargement of nucleoli in epidermal cells were observed in the skins of mice and rabbits within ten days after painting with several carcinogenic materials, report Dr. C. P. Rhoads and associates of New York University, New York City. Rats and guinea pigs appeared more resistant to the carcinogenic materials. In experiments on human skin, test materials were painted daily on areas of 1 sq. cm. on the upper back for four consecutive days. Biopsies made on the sixth day showed enlargement of nucleoli after coal tar or 3,4-benzpyrene, slight nucleolar enlargement after cigaret smoke condensate or turpentine oil, and no effect on nucleoli after white mineral oil, which is known to be noncarcinogenic for mice. Sebaceous glands were not suppressed.

Proc. Am. A. Cancer Research 1:40, 1954.

An Ideal Antacid-Laxative



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Cardiology

Excessive Vagal Tone

The cholinergic blocking action of Banthine may be effective in management of excessive vagal tone of the cardiovascular system. Similar to atropine in effect, Banthine can be administered in larger doses with fewer side reactions, report Drs. Thomas Haymond and Samuel Bellet of Philadelphia General Hospital and the University of Pennsylvania, Philadelphia. Tachycardia and shortening of the PR interval occurred after intravenous administration of 5 to 10 mg. of Banthine to 11 patients with auriculoventricular heart block, Wolff-Parkinson-White syndrome, the hypersensitive carotid sinus syndrome, or coronary sinus rhythm. The effects occurred within forty-five to ninety seconds and persisted four to six hours. Oral administration of 100 to 400 mg. to 8 patients produced slight tachycardia within thirty to ninety minutes which lasted three to six hours, but the PR interval was unaltered. The hypersensitive carotid sinus reflex was abolished by either route. The auricular rate was accelerated in 2 patients with complete auriculoventricular heart block, but the ventricular rate remained unchanged. Slight side effects of dryness of the mouth, dilatation of the pupils, blurring of vision, and urinary retention were observed.

Am. J. Med. 16:516-520, 1954.

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Therapy

Control of Diabetes

Insulin preparations designated as lente, semilente, and ultralente provide diabetic control without causing local allergic reactions. Given to 28 patients with diabetes previously well regulated by various combinations of soluble and protamine zinc insulin, the preparations effected better diabetes control in 14, equally good in 7, and definitely poorer in 2. Inconclusive results were observed in the remaining cases, report Drs. Ian Murray and Robert B. Wilson of the Victoria Infirmary, Glasgow. Similar in action to mixtures of soluble and protamine zinc insulins, lente insulin eliminated the necessity of making the currently used mixtures; action was more even in some cases. Ultralente had a more prolonged action than protamine zinc insulin and did not lose potency when small doses of semilente were added, thus avoiding separate injections. Semilente acted similarly to soluble insulin. Patients with insulin lumps received immediate and complete relief with the lente insulins, and no local allergic reactions occurred in any instance.

Brit. M. J. 4844:1023-1026, 1953.

"We'd like you to settle a little argument we're having about bridge."

Hematology

Antileukemic Drug

Oral administration of 1,4-dimethanesulfonyloxybutane (Myleran) will produce remissions in patients with chronic granulocytic leukemia. Of 11 subjects treated with the drug, 8 showed subjective and objective improvement. Remissions lasted from one to nineteen months, report Dr. Nicholas L. Petrakis and associates of the National Institutes of Health and the University of California, San Francisco. Responses were characterized by a sense of well-being and decreases in leukocyte count, splenomegaly, hepatomegaly, and adenopathy. Increase in hemoglobin levels and improvement of hemorrhagic manifestations obviated blood transfusions. Myleran selectively depresses granulocytic marrow elements and has no significant ameliorative effect on multiple myeloma, nasopharyngeal carcinoma, or acute myeloblastic, stem-cell, or monocytic leukemia. Dosage was 50 to 100 mg. over a ten-day to two-week period. Maintenance therapy was dependent upon individual responses and varied from 6 to 20 mg. per week. Development of thrombocytopenia may necessitate temporary cessation of drug administration.

Cancer 7:383-390, 1954.

BRONCHIAL ASTHMA

dramatic relief even in the "refractory" patient

Even asthmatics who have proved refractory to all customary measures including epinephrine (and even to other forms of ACTH) may benefit dramatically from HP*ACTHAR *Gel*.

Fast relief in severe attacks of bronchial asthma can be confidently expected with HP*ACTHAR *Gel*, given either subcutaneously or intramuscularly. HP*ACTHAR *Gel* may also provide long-lasting remissions.

When used early enough, HP*ACTHAR *Gel* may become a valuable agent in prolonging the life span of the asthmatic. The authoritative Journal of Allergy stresses: ACTH "should not be withheld until the situation is hopeless."[1]

1. Editorial, J. Allergy 23: 279, 1952.

HP*ACTHAR *Gel*
(IN GELATIN)

*Highly Purified. HP*ACTHAR® *Gel* is The Armour Laboratories Brand of Purified Adrenocorticotropic Hormone—Corticotropin (ACTH).

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Neurology

Etiology of Headache

Steady recurrent nonpulsatile headache, usually associated with tension, depression, hypertension, or fatigue, may be due to vasoconstriction of cranial arteries in association with sustained contractions of ischemic skeletal musculature. Pulse waves from the supraorbital, temporal, and occipital arteries and electromyograms from associated skeletal muscles were obtained of 26 patients with contraction headaches. Data were compared with results derived from 10 subjects who did not have headaches. Extensive vasoconstriction, indicated by significant decreases in the mean amplitude of the pulse wave contours, and a tenfold increase in the amplitude of action potentials from the involved muscles were observed during episodes of headache, report Drs. M. Martin Tunis and Harold G. Wolff of New York Hospital and Cornell University, New York City. Relative vasoconstriction, with a smaller amplitude of the pulse wave contour and an increase in size and number of reflected waves, was demonstrable even during headache-free periods in both normotensive and hypertensive patients. Sustained vasoconstriction combined with muscle contraction resulted in headaches more commonly than when either condition existed separately.

Arch. Neurol. & Psychiat. 71:425-434, 1954.

Doctor to Doctor

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"She said her husband was one of 12 children, of whom only 6 grew up to adultery."

Hematology

Oral Iron and Steatorrhea

Defective iron absorption occurs with idiopathic steatorrhea and may be a prime factor in the development of associated hyperchromic anemia. Absorption of radioactive iron in a group of 13 patients with idiopathic steatorrhea was only about 2% of a total oral dose of 200 mg. of ferrous sulfate labeled with 5 μg. of Fe^{59}. The low absorption level, as measured by the amount of radioiron concentrated in the red cells, occurred in spite of severe iron deficiency in some patients and bore no relation to severity of bowel symptoms, report Drs. J. Badenoch and Sheila T. Callender of the Radcliffe Infirmary, Oxford, England. Unabsorbed iron was almost completely recovered in the feces. Poor absorption rather than defective utilization was indicated by the rapid and complete utilization of radioactive iron administered intravenously. Response to oral iron of 12 patients with hypochromic anemia without steatorrhea and of 3 nonanemic subjects was significantly greater than response of patients with steatorrhea. Utilization of oral iron appeared to be greater when given to fasting subjects, but even when given between meals iron cannot ensure adequate absorption in cases of idiopathic steatorrhea. With apparently sufficient iron absorption to maintain iron balance, 2 of the 13 patients with idiopathic steatorrhea demonstrated recurrent anemia while taking the radioactive ferrous sulfate orally; neither patient had sustained a sufficient blood loss to account for the iron deficiency.

Blood 9:123-133, 1954.

Therapy

Advanced Breast Cancer

Bilateral total adrenalectomy, to remove endogenous sources of androgen and estrogen, may produce temporary remissions in patients with advanced recurrent metastatic breast carcinomas. Removal of the adrenals without concomitant oophorectomy may benefit patients unaided by surgery or roentgen-ray treatment. Of 10 women with advanced breast cancer, 5 showed significant objective improvement after adrenalectomy, report Drs. Edwin A. Lawrence and Glenn W. Irwin of Indiana University, Indianapolis. However, 2 women deteriorated steadily after the procedure, 2 were unaffected, and 1 died before an adequate observation period. Postoperative management of adrenal cortical insufficiency consists of daily oral ingestion of 25 to 62.5 mg. of cortisone. Hot weather, infections, emotional disturbances, or conditions inducive of vomiting may increase cortisone requirements. In some cases, intramuscular administration of 2.5 mg. of desoxycorticosterone is also necessary.

J. Indiana M. A. 47:357-362. 1954.

"I'll say one thing for Sid. He certainly suffers in silence."

Endocrinology

Hypothyroid Differentiation

Diagnosis of equivocal hypothyroidism is facilitated by the use of thyrotropic hormone (TSH). An increased uptake of radioiodine (I^{131}) by the thyroid gland can be induced by TSH in euthyroidism and in pituitary hypothyroidism but not in primary thyroid myxedema. The TSH response provided an accurate diagnostic index for 16 of 17 patients with equivocal hypothyroidism, observe Dr. Norman G. Schneeberg and associates of the Philadelphia General Hospital. Thyroid medication did not inhibit the augmentation of I^{131} uptake induced by TSH. A negative response in some instances may be of greater diagnostic value than a positive reaction, since increased radioiodine uptake occurs in euthyroidism and pituitary hypothyroidism.

J. Clin. Endocrinol. & Metabol. 14:223-231, 1954.

Oncology

Therapy for Cancer

Thorazine, a nonbarbiturate central depressant, has valuable ameliorative effects upon some cancer patients. The agent was administered orally to 32 patients with far-advanced cancer in doses of 25 to 100 mg. one to three times daily for periods of five days to three and one-half months. Patients unrelieved by other sedatives or analgesics and those with nausea and distress caused by treatment for cancer were favorably affected by thorazine therapy, report Dr. John Lucas and associates of the George Washington University, Washington, D. C. Favorable effects included relief of pain, muscle spasms, nausea, vomiting, dyspnea, cough, restlessness, and apprehension. Improvement in strength, sleep, appetite, and sense of well-being and decrease in narcotic needs were also noted. Side effects of oral dryness, loss of taste, nausea, and vomiting were controllable by reduction in dose or alteration in route of administration.

Proc. Am. A. Cancer Research 1:30, 1954.

Obstetrics

Prolonged Labor

When labor continues for thirty hours or more with scant progress in fetal descent or cervical dilatation or effacement, intact amniotic membranes should be ruptured artificially. Unless contraindicated, pituitary extract may then be given as long as safe vaginal delivery can be expected. If birth is not imminent after eight hours of treatment, however, cesarean section should be done, believe Dr. John R. McCain and associates of Emory University and Grady Memorial Hospital, Atlanta. Rules are derived from 158 cases of prolonged labor, due chiefly to primary uterine inertia. In many cases, labor continued forty-eight to sixty hours or more, yet only 12 women had cesarean section. A number of vaginal deliveries were disastrous, and 33 or 20.9% of infants died before or soon after birth. Section might well have been done in 35% of cases, thus reducing infant mortality to 8%.

J.A.M.A. 153:695-699, 1953.

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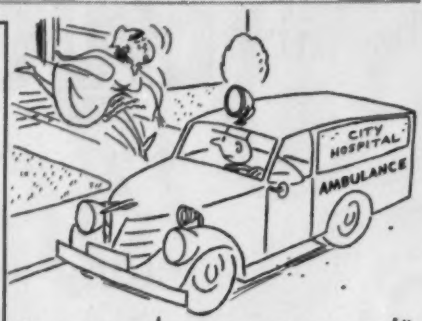

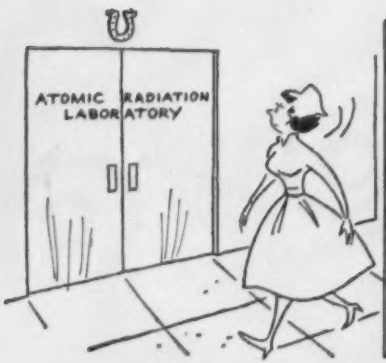

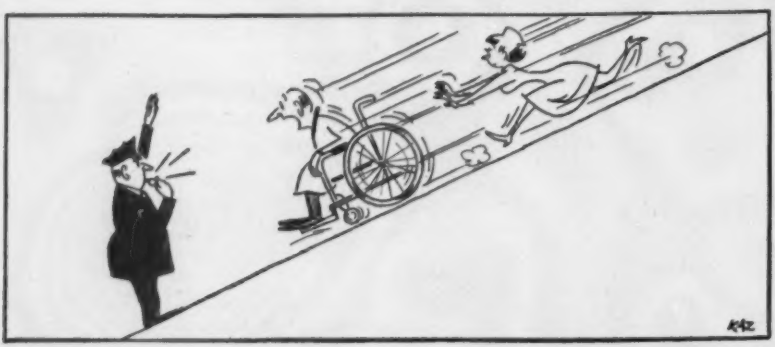

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1. Pensky, N., and Goldberg, N.: New York State J. Med. 53:2238, 1953. 2. Nierman, M. M.: J. Indiana M. A. 45:497, 1952. 3. Knox, J. M.: Preliminary Report, U. S. Navy Medical News Letter, vol. 20, Nov. 14, 1952. 4. Lubowe, I. L.: Clin. Med. 59:354, 1952. 5. Poole, W. L.: To be published. 6. Kalb, C.: To be published. 7. Marshall, W.: M. Times 79:222, 1951.

*Case report.

Two months later: "the skin was dry . . . the whole face markedly improved"*

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Oncology

Breast Cancer Therapy

Excessive excretion of estrogen and related compounds in patients with mammary cancer may be inhibited by cortisone therapy. Of 7 postmenopausal women with malignant breast tumors, 5 excreted 5 times the mean normal of estrogen and 16 times the normal amount of estrogen-like compounds, report Drs. Olive Watkins Smith and Kendall Emerson, Jr., of Peter Bent Brigham Hospital and the Harvard University, Boston. As the disease progressed, the titers of estrogen and related compounds increased. However, urine specimens showed normal estrogenic levels in 3 of 4 patients after cortisone therapy. Ovaries previously sterilized by exposure to roentgen rays were apparently a source of estrogen, since oophorectomy reduced the amount of urinary estrogen excreted. Excretion of related compounds, detectable by zinc–hydrochloric acid hydrolysis, was inhibited only by cortisone therapy, indicating that the adrenals may be the secretory source of estrogenic precursors.

Proc. Soc. Exper. Biol. & Med. 85:264-267, 1954.

"I can't seem to forget that I once suffered from loss of memory!"

Radiology

Cobalt 60 and Radium

Identical plaques of radium 226 and cobalt 60 applied to similar areas of skin on rabbits cause slight variations in irradiation effects but no significant differences in speed of reaction when dosage is calculated by Paterson-Parker converted tables. Drs. Isadore Meschan and Anderson Nettleship of the University of Arkansas, Little Rock, compared the 2 qualities of radiation after plaques of the different modalities were placed on the opposite sides of the abdomens of rabbits and a total dose of 7,000 gamma roentgens was delivered to a depth of 0.25 cm. on each side. Irrradiation effects, including primary erythema intensity and area, induration, moist erythema intensity, primary healing, and nature, size, and secondary breakdown of scar tissue, were compared. Of 58 rabbits so treated, 30 showed identical reactions from both modalities, 27 had slightly more severe effects from cobalt 60, and only 1 had a more severe reaction from radium. The rate of reaction was identical in 33 rabbits, faster with radium in 13, and faster with cobalt 60 in 12. Biopsy specimens examined microscopically at intervals of one, two, three, and four weeks after removal of plaques in another group of 13 rabbits showed only slight differences but indicated earlier hyperplasia and greater ulcerative reactions on the cobalt side. With the use of Paterson-Parker tables, a dose of 6,000 to 6,500 r with cobalt 60 in five to seven days may be more desirable than 7,000 r with radium in interstitial and intracavitary or plaque technics.

Am. J. Roentgenol. 71:306-319, 1954.

Pathology

Desoxypyridoxine and Leukemia

Oral administration of large doses of desoxypyridoxine to patients fed normal diets may induce pyridoxine deficiency and produce hematologic changes in acute lymphoid malignant disease. Daily administration of the pyridoxine antagonist to 4 adult patients with acute lymphatic leukemia resulted in a reduced number of immature lymphoid cells circulating in the peripheral blood, report Drs. David R. Weir and William A. Morningstar of Western Reserve University, Cleveland. A brief hematologic remission with decreased severity of anemia and normal polymorphonuclear leukocyte production occurred in 1 of the patients. However, a second course of treatment failed to reproduce the satisfactory reaction. Granulocyte stimulation was not observed in the other 3 patients. Postmortem histologic examination of the tissues revealed possible modifications in leukemic infiltration in 2 of the patients. Adrenal cortical degeneration and deposition of crystals in the convoluted tubules of the kidneys were also observed. Doses in excess of 500 mg. appeared necessary for induction of the deficiency. When dosage was increased to 1,400 mg. daily, 2 of the patients had signs of pyridoxine deficiency.

Blood 9:173-182, 1954.

Our Office Nurse

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Statistics

I warned my patient that he should decrease his alcohol consumption.

"I don't know if I'll take your advice," he answered. "There are more old drunks than old doctors in the world."—S.L.

Sin of Omission

My patient was telling me how he had been injured in a skiing accident. "As I fell down the slope," he said, "my entire life flashed through my mind and I thought of a million things I had left undone."

"Did you think of the bill for your operation that I sent to you three years ago?" I asked—B.P.S.


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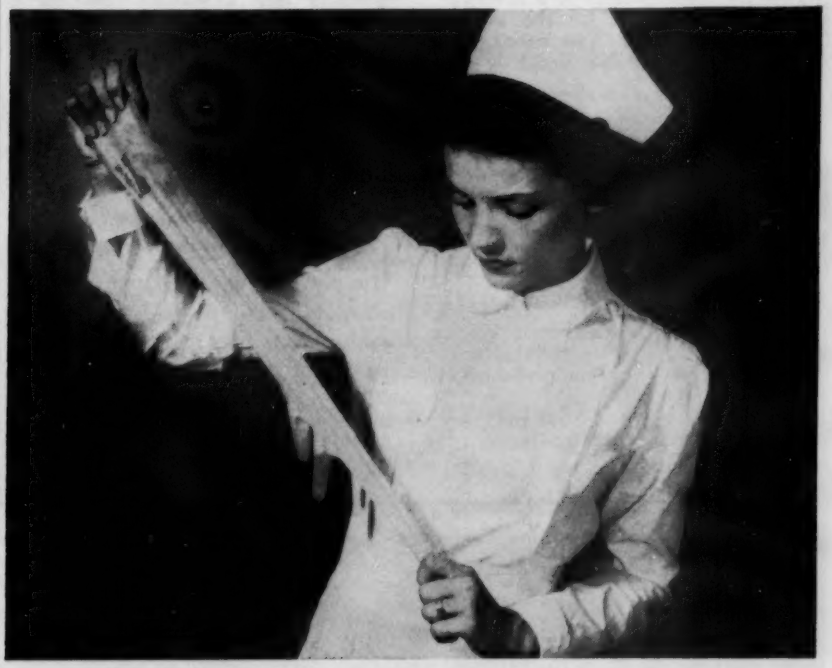

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I advised the husband of a severely ill patient to prepare for the worst. "What do you mean?" he asked. "Is she going to live or die?"—S.L.

For Laughs

When I told a colleague that one of my obstetric patients was the wife of a famous comedian, he remarked, "I hope she has a better delivery than her husband."—L.L.B.

Navigate, Not Propagate

The woman who had just given birth to her third girl upbraided me, saying, "Doctor, why can't you give me a boy?"

"Madam," I answered, "I only direct the launching, not the laying of the keel."—A.M.

Helpmate

When I told a woman that her husband was dangerously overweight, she said, "Don't worry, Doctor. I'll help him lose weight by nagging him for a mink coat."—E.H.

Unsentimental Bride

When a patient came in for a blood test necessary to obtain a marriage certificate, I said, "I thought you told me you wouldn't marry the best man on earth."

"I'm not," she answered.—B.P.S.

Unscheduled

"Why did you name the child 'Encore'?" I asked Mrs. Jones as I examined her daughter.

"She wasn't on the program," answered the mother.—S.L.

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CHLORINE	900 mg.	MANGANESE	0.4 mg.
COBALT	0.006 mg.	*PHOSPHORUS	940 mg.
*COPPER	0.7 mg.	POTASSIUM	1300 mg.
FLUORINE	0.5 mg.	SODIUM	560 mg.
*IODINE	0.7 mg.	ZINC	2.6 mg.
*IRON	12 mg.		

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*ASCORBIC ACID	37.0 mg.	PYRIDOXINE	0.6 mg.
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CHOLINE	200 mg.	*THIAMINE	1.2 mg.
FOLIC ACID	0.05 mg.	*VITAMIN A	3200 I.U.
*NIACIN	6.7 mg.	VITAMIN B_{12}	0.005 mg.
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